JAM-PACKED FROM COVER TO COVER WITH C64 INFO

Plus SupportWare: more software!

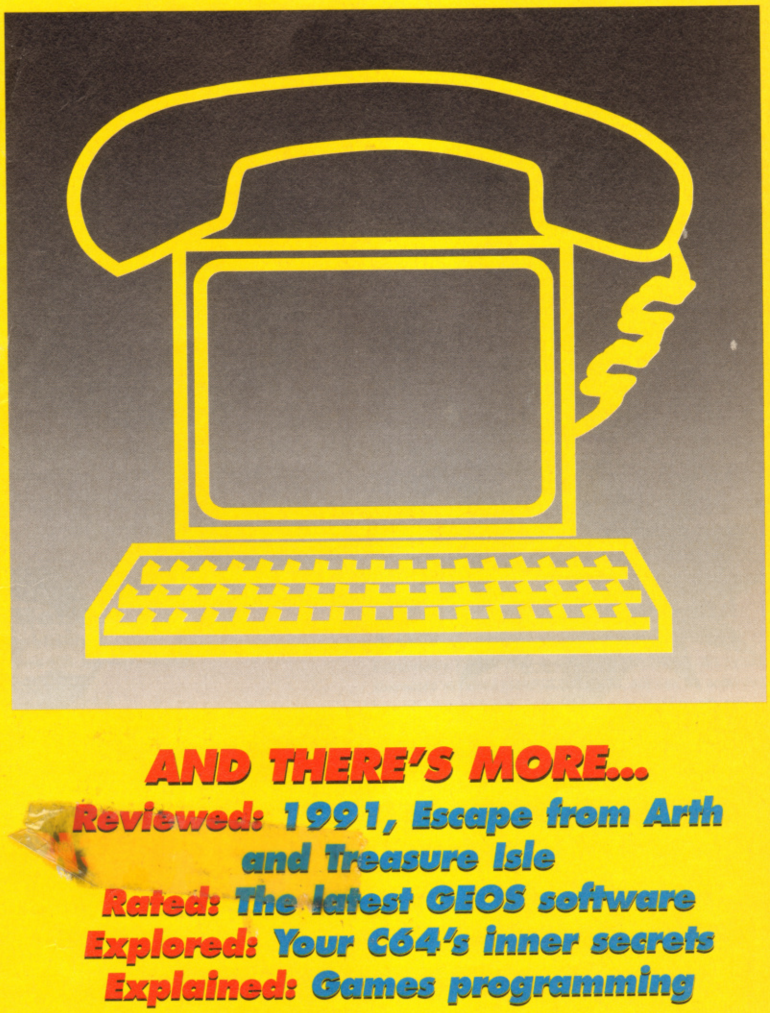
COMMODORE FORMAT

If you've got a C64 then get this

ISSUE 60 ● £3.25 ● SEPTEMBER 1995

GET CONNECTED

to gigabytes of software, thousands of places, and 24 million people...



Blim! Someone's made off with the Power Pack that should be just here! Go see the newsagent immediately, and tell him you'd like the tape that comes with this mag, or else.

Tape to disk SMART! Turn to p.5

AND THERE'S MORE...

Reviewed: 1991, Escape from Arth and Treasure Isle

Rated: The latest GEOS software

Explored: Your C64's inner secrets

Explained: Games programming

Future PUBLISHING

COMMODORE FORMAT
September 1995 • Issue 60

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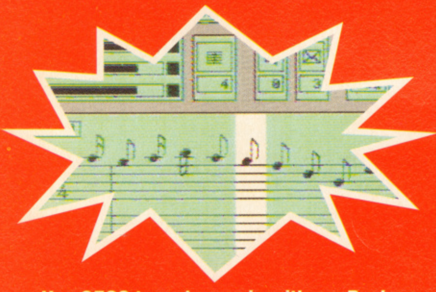
Stop computing in the dark – we show you how to get in contact with millions of other enthusiasts with our essential guide to getting your C64 onto the internet. Let the tonnes of free information, entertainment and software flow free. This feature is a guaranteed cyber-matrix-super-highway-techno-babble-info-catchword free zone. Phew.

14 GEOS

Andrew Fisher raves about all the latest essential software for your GEOS setup.



Use GEOS to make music with *geoBach*, the latest score notator from CMD.

6 Power Central

See them? They're aliens. See that blaze of fire? That's you, that is.

Four hot previews of up-and-coming titles that you'll be seeing on your C64 in the very near future.

Hold on a mo – that's *Mayhem*. Or is it? Turn to page 6 to find out...

20 Potted Guide

Someone dared the Mighty Brain to give a guide to writing games, so he has. If you want to start on the road to programming glory, this should be your first stop

5 ON THE POWERPACK...

Blimey!

No, that's not *Road Course* itself, but the intro. There's much more on the tape than that, though – we've also got the development version of *Super Pac Twins*, and some excellent sound and light demos courtesy of the Mayhem squad.

REGULARS

3 News

If it's happening on the C64, it's happening in this month's news. Oddly, the reverse doesn't hold true – there's lots of irrelevant stuff in there too.

9 Contact points

We're not the only people who publish about the C64, you know. If you want to hear another side of the story, read the fanzine reviews.

10 The Mighty Brain

After turning down the opportunity to work with Stephen Hawking on his new book (he didn't want to show him up), TMB shreds a few more letters.

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Arif Perez proves himself to be a gaming genius, by dominating this month's tips column.

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The skillful surgeon Finch delves even deeper into the heart of your machine.

16 Techie Tips

No problem is too big or too small for our resident expert Dr Finch. He is good to you all.

18 Back to BASICs

In keeping with TMB's excursion on page 20, this month we cram the beginnings of adventure writing into just one page...

TURN TO PAGE 5 FOR THE FULL COVERTAPE BRIEFING... ➤

Still here

CF60 will change the way you use your C64 from now on. Instead of using a computer on your own, it's time to connect it to the rest of the world, and throw your thoughts into the electronic melting pot that is the internet.

Cloying cyber-phrases aside, if you haven't yet been online you don't know that you're missing megabytes of free software, the ability to send messages to any other user in the world at the click of a button, and access to the largest information database on the planet – the planet. Anybody and everybody is online, and you could be too. Turn to page 12 for more details.

Irritatingly enough, the C64 isn't really cut out for the world-wide web, a network designed for 256 colour machines and non-proportional fonts. If anyone out there would like to write a utility to make the most out of it, though, we'll happily pay them and put it on the covertape.

Another feature in this month's CF is Jon Wells' supportware scheme. Though in itself the scheme is a great idea, the reason for its existence isn't very nice – despite the many moans and groans that no new software is released on the C64, when Visualize did produce new, exciting games, the response they got in the way of solid orders was distinctly watery. Jon feels that commercial C64 software is no longer viable – when are we going to learn that if we want softies to support us, we have to support the softies in return? It's unfair to expect people to carry on producing new and exciting games when a lot of people just wait for the pirated version to be distributed. This is elaborated on page eight, but personally I'm surprised that the people who support the C64 get so little response from you, the people who benefit so directly from their actions.

The next issue of Commodore Format will be on sale on September 5th, and if you're looking for gossip, you can sit around and wonder how it's going to be more than a little bit special. In fact, it's going to be an issue to remember.

Simon Forrester

News

PD forever!

If Public Domain software is really your thing, you ought to get hold of Public Domain 64, the ultimate guide to public domain heaven, featuring reviews, previews, interviews, news, and a few things that don't end in 'ews' (programming tips, mainly). It costs just £1.70 and you can get it by writing to 104 Northwood Tower, Marlowe Rd, Walthamstow, London E17 3HJ for more info. Alternatively, ring 0181 521 9528.

Hoogeveen?

Peter Staaks, creator of the fresh new Eagleware International, is proud to present several new games to the world, penned by the man himself and available through Eagleware. As well as carrying older favourites like Stars and Rings (rated by CF), he's making new games like Confusing Quest available to the general public. For more information, write to Pete Staaks, De Fazant 42, 7905 HD Hoogeveen, Holland, or ring Holland 05280 73107.

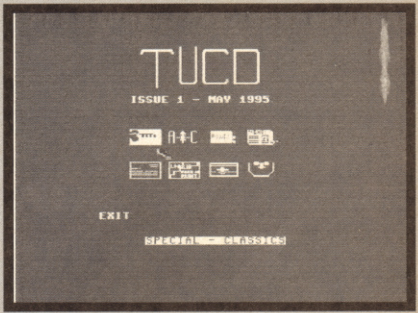
Getting serious

The Independent Eight Bit Association, formally run for the benefit of Spectrum and Sam Coupé, is being relaunched to provide a contact group and clearing service to owners of all 8-bits, including C64s, CPCs, Speccys, PCWs and Sams. The organisation has been established by a management committee of representative users of all the machines concerned.

As an offer to all those looking for an active group to use, Commodore Format readers are entitled to a free life membership *(I'd like to join, and I claim my free life – ed)*. Just send two first class stamps and a return address label to the IBEA C64 contact, Brian Watson, 39 High Street, Sutton, Ely, Cambs, CB6 2RA.

They're back

Despite receiving a less than glowing review in last month's CF, The Ultimate Commodore Diskzine have returned triumphant with a new, improved mag. Coming on two double-sided disks, it should contain a lot more information to keep your C64 happy, as well as an abundance of free software to warm it up with. Issue 2 is following this format, and is available for £1.50 from PC Software, 61 Inverary Road, Wroughton, Swindon, Wiltshire, SN4 9DL. Alternatively, you can send along an SAE for a free copy of their catalogue, detailing the many top PD titles available.



The Ultimate Commodore Diskzine. Issue two will hopefully contain a lot more information...

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NOTE: Please do not ring the office for advice. As we can only answer your questions through the pages of the magazine. There's no reason, it's just a little game we play. Please send written enquiries to the address above.

Captain Simon Forrester
Ship's cook Kevin Hibbert
Ship's band Jason Finch, Mark and Paul Kubiszyn, and Andy Tarski.
Travel agent Rob Bennett
Admiral Simon Stansfield
Ship builder Greg Ingham
Owner Nick Alexander
Lifeboat operative Jayne Owen
Ticketter Cherry Coad
Author of "Ragtime" Jon Bickley

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See also Genesis 7 and Psalm 12.

Printed in the UK by William Gibbons and Sons Ltd, Willenhall, West Midlands WV13 3XT.

Pixellated

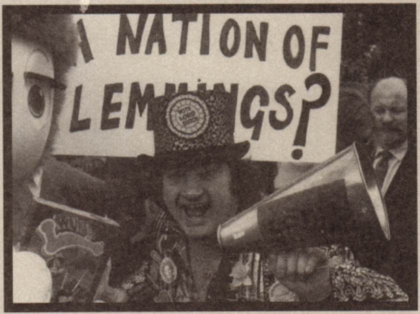
Anyone with a serious passion for the moving (and pixellated) image will already know that the London Effects Animation Festival will be running from 28th November at the London Effects Animation Centre, holding workshops and hosting talks by such renowned figures as Snowden Fine Productions, Walt Disney Features, Ray Harryhausen, MediaLab, New Wave Entertainment, Cinesite, Frame Store and Virgin Interactive Entertainment. It looks as if Industrial Light and Magic will also be turning up.

Get Animated!

If the LEAF wasn't enough to keep your creative juices flowing, you should be thinking about going along to the Museum of the Moving image where, from 11th September to 29th October, the Get Animated exhibition will be held. The organisers will be encouraging everyone there to participate in the making of a short film, called 'Going to the Pictures'. The season will also include training sessions on the World Wide Web, if you're interested. You can contact the London Tourist Board for details of that one, though.

Cheap publicity stunt

If July's political (but ultimately wasted) tension wasn't enough to give you doubts about the country you're living in and the way it's run, Sony Psygnosis sent a lemming into College Green to hand copies of their latest game to MPs who weren't exactly acting like normal, right-thinking rodents. It's still unclear, say Psygnosis, whether Major will want to act like a basher and ditch his political enemies, become a bridger and cross the divide between pro and anti Europe issues, or become an effective blocker between the left and the right factions of the party. Here at CF, of course, we really don't care.



Worthy political statement or cheap, tacky publicity stunt. You decide.

Ah. I see.

Though it has to be admitted that the average quality of public domain software is generally poor (with exceptional packages standing out), there is apparently a fringe of new programmers who aren't really happy sending their work to normal libraries, for fear of it being turned down on the grounds of quality. It's for this reason that Tartan Rabbit Productions has started up a library as a home for badly written software, working on the basis that no-one'll feel apprehensive about sending even the most embarrassing piece of code.

Quite what the attraction is here we're not sure, but if you're rubbish and you'd like to spend a few hours rummaging through the mountains of useless tat that your peers have produced, write to Tartan Rabbit for more details at 15 Mid Row, Lunanhead, By Forfar, DD8 3NX. We can't wait to review their first collection *(Isn't that just a little bit harsh? I'm sure it's a valuable way to share your programs and knowledge with others for the greater good of all – ed).*

C64 Scene directory

Clubs

COMMODORE MAGIC
5 Crane Avenue, Yaxley, Peterborough,
Cambs PE7 3JH

GEOSCLUB
Frank Cassidy, 55 High Bank Road,
Droylesden, Manchester M35 6FS

ICPUG
45 Brookscroft, Linton Glade, Croydon,
Surrey CR0 9NA

SEUCKERS
12 Arthur Avenue, Caister-on-Sea, Great
Yarmouth, Norfolk NR30 5PQ

SIMULATION CLUB
S Allen, 21 John Shepoy Street,
Hyde, SK14 4HN

Comms

ASPECTS ☎ 0161 792 0260
CIX ☎ 0181 390 8446
COMPUSERVE ☎ 0800 289378
DELPHI INTERNET ☎ 0171 757 7150
DIRECT CONNECTION ☎ 0181 317 0100

Fanzines

COMMODORE ZONE
· 34 Portland Road, Droitwich
Worcs WR9 7QW ☎ 01905 779274

8BIT
· Harrowden, 39 High Street, Sutton-in-the-Isle, Ely, Cambs CB6 2RA
☎ 01353 777006

SIXTY FOUR
· c/o LS Bebbington, 348 Station Road,
Winsford, Cheshire CW7 3DG
☎ 01606 861647

Indie Software Companies

COMMODORE 64 SOFTWARE HIRE CLUB
· C Statham, 3 Briarbank Ave, Porchester
Lodge Estate, Nottingham NG3 6JU.

ELECTRIC BOYS ENTERTAINMENT SOFTWARE
· 59 Milton Road, Tottenham, London, N1
3DS ☎/fax 0181 668 7595

SQUIRM SOFTWARE
· c/o Stephen Renehan, 1 Prince Arthur
Terrace, Rathmines, Dublin 6, Ireland

VISUALIZE
· 9 De Grey Road, King's Lynn, Norfolk
PE30 4PH ☎ 01553 760012

XL.C.US INC M&P
· 21 Stockwell Road, Milton Malsor,
Northampton NN7 3AN

WWW resources

COMMODORE FORMAT
http://www.futurenet.co.uk/computing/commodoreformat.html

C64 WWW PAGE
http://www.hut.fi:81/~msmakela/cbm/

Mail Order

EVERGLADE
· 68 Telford Street, Inverness, Scotland,
IV3 5LS ☎/fax 0146 324 0168

OASIS
· 14 Ridgeway Road, Salisbury,
Wilts, SP1 3BU ☎ 01722 335061

WIZARD GAMES
· 1 North Marine Rd, Scarborough, Yorks,
YO12 7EY ☎ 01723 376586/503299

PD Libraries

BINARY ZONE PD (T+D)
· 34 Portland Road, Droitwich, Worcs
WR9 7QW
☎ 01905 779274

ELECTRIC BOYS PD (D)
· 59 Milton Road, Tottenham, London, N1
3DS ☎/fax 0181 668 7595

FOX PD (T)
· 6 Sturton Avenue, Goose Green,
Wigan WN3 6SZ

IPSWICH PD
· 61 Springfield Lane, Ipswich,
Suffolk, IP1 4EW

KDPD (T+D)
· 9 Failford Place, Kilmarnock,
Scotland KA3 1UJ

KINGSWAY PD (D)
· 72 Glencoe Road, Sheffield S2 2SR

MEGA MANIA PD (D)
· 9 Enler Gardens, Comber, County Down,
Northern Ireland BT23 5DS

MEGATRONIX SOFTWARE (T+D)
· 21 Tiled House Lane, Pensnett, Brierley
Hill, West Midlands DY5 4LG
☎ 01384 77172

PLPD (D)
· 40 Windsor Avenue, Whitehead, County
Antrim, Northern Ireland BT38 9RX

UTOPIA PD (D)
· 10 Cwmaman Road, Godreaman,
Aberdare, Mid Glamorgan CF44 6DG

Sharware

SHAREWARE PLUS (D)
· PO Box 301, Worcs WR8 9YW

Upgrades/Repairs

DART COMPUTING
· 105 London Road, Leicester LE2 0PF
☎ 0116 247 0059

MEEDMORE LTD
☎ 0151 5212202

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Super
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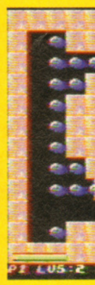

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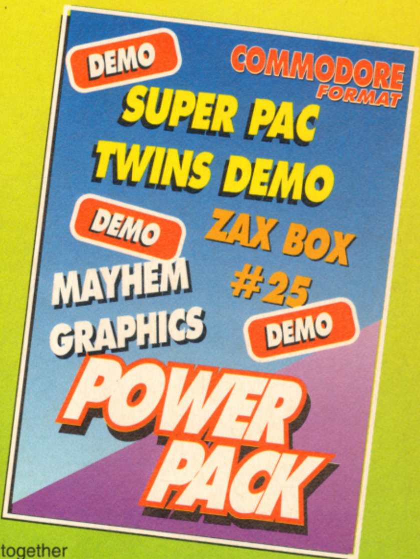
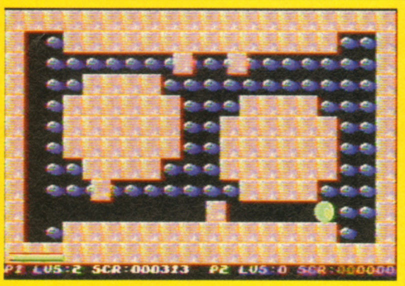
POWER PACK

This month's tape has a slightly different flavour, thanks to the Mayhem squad.



Super Pac Twins demo

Yup – it's the game we've been following through those early stages in our diary feature, and now here's your chance to play what the brothers Kubiszyn have come up with so far. It may not be the most exciting, playable game yet, but this is because you're getting the chance to see a game in the making, halfway through its development. You can use the joystick to send your Pac off in any direction you like and, as the diary this month says, the fire button doesn't do anything as yet.



***Super Pac Twins* – it's new! It's improved! It's not quite finished. Still – you could win a stack of games if you can improve on it.**

In fact, I think it's time for a competition – let's see how good you are at game development. What you have in front of you is the bare bones for a Pac game, but very little beyond the original theme (save for original level design). Well, if you can think of a brand new, original gameplay idea for the brothers to include in this arcade stormer to make it extra-special, you could win something nice. In fact, you could win a (gasp!) mystery bundle of C64 games on tape, to pay credit to your abilities. You don't have to come up with the machine code, graphic design or even full concept, but if you can think of something that little bit different for the game, you could be a winner.

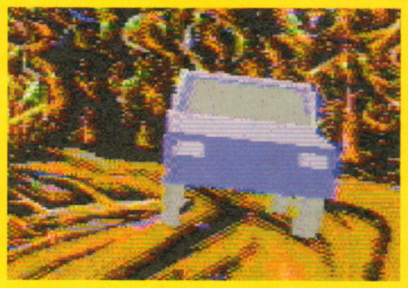
Send your entries along to Another Fabulously Witty Compo Title (Oh Har De Har), Commodore Format, Future Publishing, 30 Monmouth Street, Bath, Avon, BA1 2BW.

Road Course

From the author of *House Case* comes a similarly titled game, *Road Course*, which chronicles the highway tribulations on a man intent on reaching his destination. A man intent on revenge. A man intent on justifying an extraneous plot paragraph.

Billy was a warrior. A new knight of the road *(isn't that the AA? – ed)*. He knew no fear, no remorse, and no highway code. It's a tough, tar-macked world out here, and only the fit survive the high-octane, six cylinder turbo-nightmare we call simply "The A47".

I feel so much better now. Use the joystick to control your car amongst the swarm of other vehicles blasting past with no regard for anyone's safety, pushing left or right to steer, and forward and back to accelerate and brake. Fire will sound your horn at other drivers, should you ever go fast enough to present a danger from behind.



"Blimey! It looks like that?", exclaimed the reader. "No, that's the game's intro, which has sod all to do with the game." replied CF.

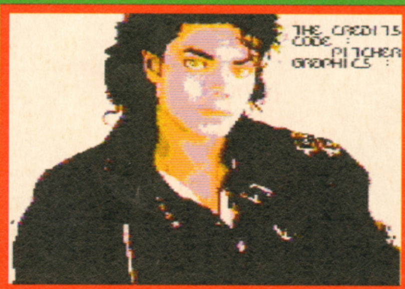
Mayhem graphics

If you don't know of Mayhem, they're a British-based group of C64 fanatics, who've kindly put together several demos specifically for Commodore Format, to brighten up both your screens and your days, and show you exactly what your machine can do. The first of their demos is a graphic piece, that you can look through using the space bar. Could it be simpler?

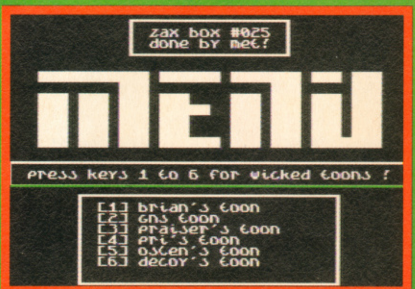
Zax Box #25

The second Mayhem demo on this month's tape is a selection of 'toon's, to push your C64's music chip to the outer limits. Once the demo's loaded, you'll be presented with a screen detailing the tunes available, and a number for each. Simply type the number to hear the relevant tune.

Before you get to this stage, you'll come across another scrolly and picture, at which point you can feel free to get a little annoyed with the need demo coders feel to include scrolly messages in everything they do, whether relevant or not. Oh well. More from the Mayhem bunch next month, hopefully.



Well you can get him out of this magazine, for a start. Only kidding. We love Jacko – he's top.



zax box #025
done by met!

menu

press keys 1 to 6 for wicked toons !

[1] brian's toon
[2] gns toon
[3] praiser's toon
[4] pri's toon
[5] osten's toon
[6] decoy's toon

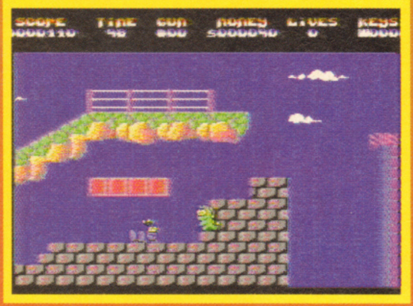
Iiiiit's that music selection screen. You didn't believe us about the keypresses, did you? Ha.

POWER CENTRAL

Once again, the office degenerates into a bunch of screaming writers wrestling for the joystick when the games arrive...

Misfortune

Bad Bytes



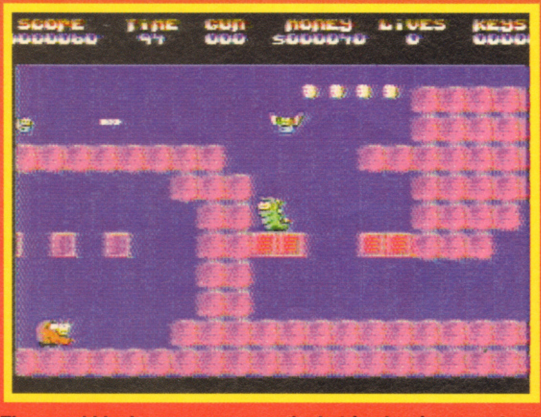
I'm not one to cause unnecessary alarm or anything, but isn't that a caterpillar wearing a hat? No – must just be me. Actually, I'm sure that's a caterpillar...

Though *Mystery* was officially the debut product of the international software team Bad Bytes, *Misfortune* is said to be the first they've ever written. Evil is starting to take hold of the galaxy, promoted by the cunningly named Evil Edwin, and challenged by the armies of good, headed up by Dozer. When his advisor gets killed by Ed's forces, Dozer decides to prove himself as a true leader and take the bad guys on mano a mano. Or dino a weird fings.

That's right – it's a horizontally scrolling platform game with a cast of strange, unearthly blobs, and a dinosaur who, despite being green, can't help looking just a bit like *Mayhem,* roaming through what could pass for Monsterland.

Having said that, we shouldn't imply that *Misfortune* is just a rehash of *Mayhem* – your mission is to guide Dozer to the five keys left on each of the five worlds, then undo the five locks on the chest that's also hidden somewhere on the planet, to steal Edwin's fortune. What a top idea – you can keep your worlds, armies of darkness and evil domain, Eddie, but we're going to tax you for it big time. This isn't as easy as it sounds, though, as the worlds are all pretty hefty and you can only carry one key at a time, making for treks back and forth across the hostile terrain, with bad guys that reset once you've got past them. Normally this would be a flaw in a game, *Misfortune* uses it to an advantage, making the repetitive journeys a little more taxing that running across an empty, deserted level.

Thankfully, our little dinosaur friend doesn't have to work completely unarmed – instead of the *Mayhem* style of bouncing on heads, *Misfortune* features a dinosaur smart enough to use a gun, capable of firing deadly snow bullets or, if you manage to get hold of a power-up, other forms of evil rockets.

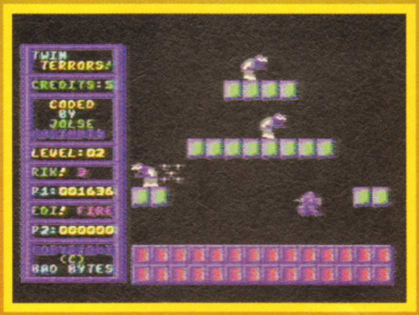


Those red blocks were once purple, but in classic computer game style, you can jump up into them and knock the power-ups out with quite a bit of force.

So we're looking forward to *Misfortune,* as it promises to be a good platform romp with a fair bit to see and do. We'll have to wait to find out whether it'll be a *Mayhem* beater, but given the quality of the preview version it shouldn't be too far off the mark.

Twin Terrors

Bad Bytes

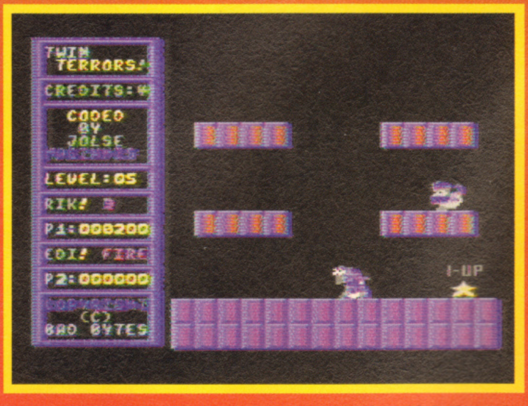


The spaceman's the little purple guy just below the purple platforms with the purple aliens roaming around on them. Oh, and he's got fat hips.

You'd have thought there'd be a limit to the amount of work one team could undertake simultaneously, but somehow Bad Bytes are dividing their attention between *Misfortune* and another, more formulaic platformer, *Twin Terrors.*

The plot here is largely irrelevant, suffice to say you're a lone spaceman (or one of a pair if you're playing a two-player game as the title would tend to suggest), battling against a series of weird aliens on a set of flick screens. As you can see from the screenshots, the level layout is all fairly simple, leaving the game's challenge for the aliens to create.

The best way to think of *Twin Terrors* is as being from the *Bubble Bobble* school of game



The results of a particularly nasty tangle, in which the collision detection kindly allowed the alien to pass clean through the spaceman. Quality.

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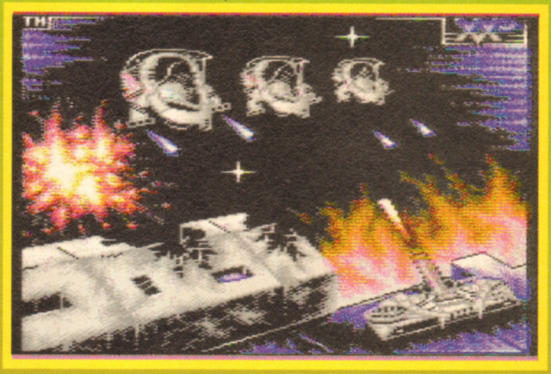
design. Your hero's fight against an ever-increasing army of odd bad guys, who slowly get more advanced, learning more skills as the game progresses. The rocket launcher you're carrying will dispatch most of the evils you come across, though some take quite a few more hits than others before they'll die. Also, with this progression in hardness, the aliens become a little more unpredictable, as they gain the ability to dash, ruining that nice shot you've lined up by ploughing straight into you, jump, meaning you can no longer hide in safety at the top of the screen waiting for a chance to drop down and dispense some instant rocket death, and even fire back.

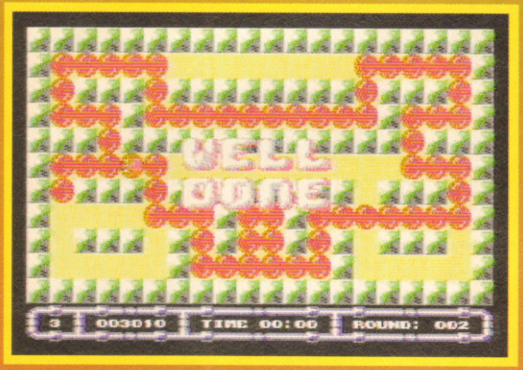
In all, *Twin Terrors* is definitely the weaker of the two Bad Bytes titles we've looked at this month, but in CF's opinion anything that recaptures the addictive pleasure of *Bubble Bobble* has got to be worth a try.



If you look closely, you'll see the little aliens sitting inside their ships. It's not looking good for the Earth boy, is it?

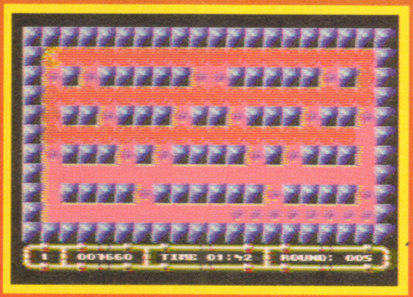
Super Nibbly

XLCUS



You'll notice a definite strategy at play – make your snake take the longest possible route at all times.

Quite why the Kubiszyn brothers have decided to release a 1992 game in 1995 is a mystery, and whether *Super Nibbly* has actually added anything to the original has never quite been ascertained but *Super Nibbly* is back, giving the world another version of that classic snakey puzzler. You may have missed it, but you had your very own preview version on CF58's Power Pack, to help you to convince yourself that these old games really are worth the effort.



Super Nibbly – this shot was taken shortly before the player realised that the 'left to right' tactic is definitely not the best.

The idea behind *Nibbly* is simple – you're in control of a hungry snake, that'll eat absolutely anything put in front of it. The more he eats, the longer he gets, until he fills the entire screen with the body segments he's gained from eating. When you place a snake like this on an empty screen fully of pills, you come up with gameplay similar to the classic *Tron*/light cycles game, where two players hooley around a screen trying not to get caught up in the deadly trails left by their opponents. The difference with *Nibbly* is that the only trail on the screen is your own that, though it isn't of infinite length, gets longer every time you eat one of the many pills scattered around. The aim of each level is, of course, to empty the screen completely of pills without biting yourself.

Add a maze to this equation, and you've got real problems. Most of the maps aren't difficult to navigate as the mazes aren't complex enough for you to get lost in, instead blocking off effective escape routes and turning the gameplay on its head completely – the problem now is calculating a safe route around the map without blocking yourself in, and making sure that the exits and routes you're taking will be clear of tail by the time you get to them.

In all, this is a fairly playable little game. To be honest it isn't really as special as we'd like, as there aren't too many additions to the old theme, but there's a lot to be said for cross-genre games – mixing *Caterpillar* with *Pacman* makes for some novel twists in strategy, and *Nibbly* takes full advantage of this.

Starforce

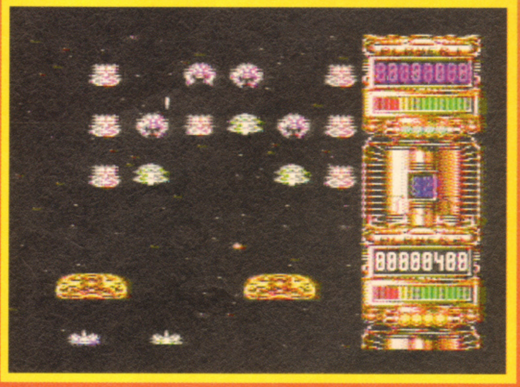
XLCUS

Space Invaders has always presented problems for me. Despite being the original game that pushed the videogame industry along in leaps and bounds, the many spin-offs it caused just confused matters. Was *Galaxian* the first to have aliens that flew straight at you, or was that *Gorf*? Which one had a mother ship? Who was responsible for the bases you hid behind? Was Tempest just a three-dimensional version of the same game?

Whatever, *Starforce* is a basic two-player *Space Invaders* clone, with a horde of aliens marching steadily down the screen firing, occasionally breaking ranks to launch fiercer attacks in twos and threes, while you sit at the bottom either waiting to die, hiding behind a shield that's being constantly bombarded by alien weaponry, or dispensing some instant laser justice to the insectoid scum.

Unfortunately, that's all *Starforce* seems to be – there're the invaders, and you. There's you, and the invaders. Normally, clones make an effort to add something to the game they're copying, but not this time. In fact, *Starforce* takes something away – whereas earlier *Invaders* games featured an entire screen's width of aliens, starting with as many as 40 on the screen at one time, it uses much bigger sprites, only fitting around 18 ships in each attack force. This increased sprite size also means that your ship effectively moves slower – though it may travel at the same speed, it takes twice as long to get the enormous thing clear of any bullets, which is difficult anyway given the sheer lack of places to hide on a screen that size.

Oh well. It'll be *Galaxian*, and if you haven't got a copy in your collection you're missing out on the granddaddy of all shoot-em-ups, but if you have, there won't be much point in looking forward to *Starforce* – sorry.

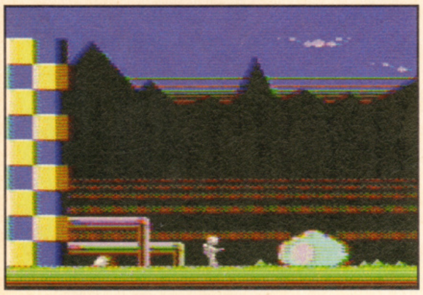


Why do aliens always attack in straight lines, anyway? They don't do it like that in real life. In real life, they just disguise the ships as clouds. They're everywhere, y'know.

SUPPORTWARE REPORTWARE

Jon Wells of Visualize is so disheartened with you miserable bunch of skinflints that he's stopped commercially selling software for the C64. I like to start a page on a downer, me.

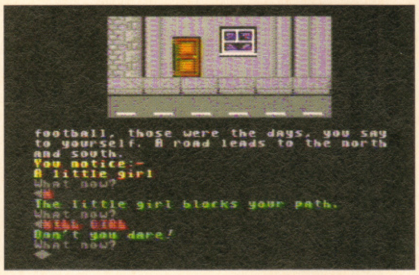
Earlier this year, Jon Wells heard of how Jason Mackenzie's *Destruction Kit* had been cracked and distributed all over the world by the rough, home-based pirate network and so, even though there were a lot of people using the package, he didn't get a penny back. This would be irritating enough were it not for the fact that companies like his are continually being pressured into producing more games for the C64, even though nobody buys them when they do finally appear. It's for this reason that Jon Wells has set up SupportWare, a brand new way to get software for your machine.



I'm sure there was a film called *Ethcape from Arth*, but you don't want to hear about that.

SupportWare works very much like PD, save for the fact that you don't have to pay for the first version – by sending off a disk or tape and the cost of the return postage, you can receive the full package, free. That's cheaper than a PD library. The other major difference is that the software is not actually in the public domain – it's full, copyrighted software and cannot be sold for profit, even if that profit is the few quid a PD company makes from duplicating the package.

Once you've decided you like the package and want to keep it, the SupportWare scheme comes into action. You are encouraged to send in a donation (with a practical minimum of 50p), not as payment for the software but as a way of saying "Thanks – I liked that one, is there any more?"



```
football, those were the days, you say
to yourself. A road leads to the north
and south.
You notice:-
A little girl
What now?
<[illegible]
The little girl blocks your path.
What now?
<KILL GIRL
Don't you dare!
What now?
```

The trouble with adventure games is that they don't let you go your own way.

But why?

It doesn't make much sense, does it? If Jon's annoyed about other people cutting in on his profit, why wipe it out totally? He has his reasons:

"SupportWare has been introduced as a last resort, to flood out the market, giving everyone a copy of the product and thus destroying piracy. I have nothing to lose, and am already developing software on the PC, but I'm fond of the 64 and would still like to support you all, if and only if my efforts are supported in return."

So it's decided, then – this scheme is your last chance to see full commercial software from the likes of Visualize and Psytronik. If you order the software, like it and decide to reward the author's efforts, the scheme will survive. If you get a copy and sit back, thinking "someone else will pay", you'll have doomed the future of a scheme that could bring you some of the cheapest high-quality software to date.

So, if you want to get hold of the first in the SupportWare series, send a first class stamp and a disk or tape to SupportWare, c/o Jon Wells, 9 De Grey Road, King's Lynn, Norfolk, PE30 4PH.

Package 1: Escape from Arth & Treasure Isle

Originally released over a year ago, Treasure Isle followed the fortunes of a young lad out to find an enormous stack of gold and riches, in classic text adventure style. Hutch gave it 82% when he reviewed it, commenting that apart from a few problems with the parser (the bit that understands your instructions), it's an immensely playable game. Of course, all text adventures are an acquired taste, but if you'd like to get into the genre, *Treasure Isle* is a damned good place to start.

Escape from Arth was a completely different style of game, with a spaceman running around a lonely, hostile planet trying to get back off the surface to his homeworld. The variety of props, coupled with the different types of bad guys you'll meet along the way make *Escape* a fun little exploration game that received 70% this time last year, and is definitely worth a second look.

Having said that, being stranded alone on a hostile planet isn't a situation we should make light of, is it? You may have been stranded in a town or small village before, but at least you had a chance of slowly walking back. You could ring up a friend and get a lift, or find a bus stop or train station. People lost on Arth don't have these facilities. How high can you jump?

NEXT MONTH

We'll be delving into the delights of the next SupportWare packs to hit the streets, featuring *Blitz 2000* and *Sceptre Uncut* as the pack 2, and *City Bomber* and *Rescue Mission* as pack 3. By that point, we expect you to already be enjoying *Escape from Arth* and *Treasure Isle.*

Contact points

Stop the presses! Hold the front page! How come you're never around when the superhero is? What do you do with your suit? Where do you keep the hairgel? Or the cape, for that matter. Does the 'S' shrink in the wash?

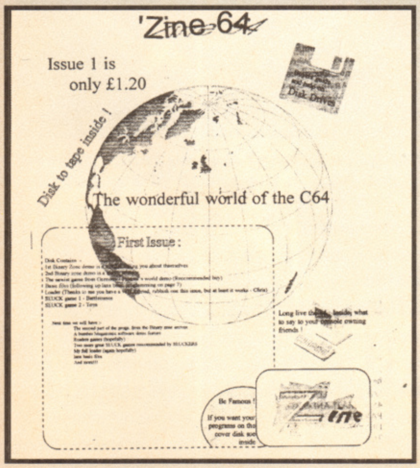
'Zine 64

Chris Holgate • SAE + £1.20
45 Wheatlands Rd, Paignton, Devon, TQ4 5HX

This 20 page A4 bimonthly fanzine comes complete with a disk, though the authors offer a tape by mail to make sure tape owners don't miss out of the fun. Issue one's disk contains game demos from Binary Zone, programs from tutorials and a *Flimmi's World* demo.

Have you ever had the feeling that you're being hunted down? The cover sports a globe, with the coverline "The wonderful world of the C64", though I'd like to point out that CF received the fanzine on 6/7/95, after we'd sent issue 59 to the printers on 25/6/95, but before the issue hit the shelves on 11/7/95. Phew, eh?

Anyway, this issue contains a very basic BASIC tutorial, hardware hints, reviews of *Heavenbound* and *Chicken,* plus an interview with Dean Kelly from Megatronix Software. Other high points include a news page that openly discusses CF *(Good – ed)*, and a vaguely militant C64 versus the consoles page. In order to get things off to good start, the authors have also included a survey, to give them an accurate idea of what makes you tick.



So where's Europe, then? What happened to Africa? Asia? This is a little worrying.

All in all, 'Zine 64 is a good fanzine. Though it's quite well printed, its layout and visual quality still resembles photocopied sheets, but the information is all there. 'Zine 64 is a magazine that you should consider buying – you could benefit from it, and it could benefit from you.

4/5

Commodore Magazine

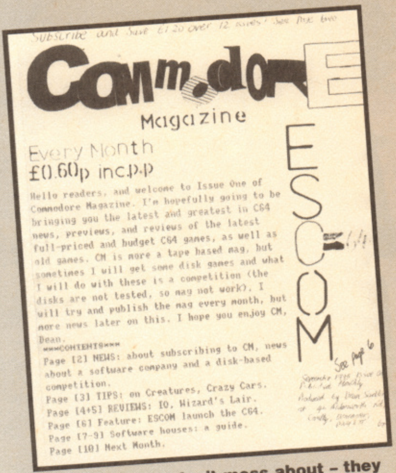
Dean Sadler • 60p
46 Aldesworth Road, Cantley Estate 2,
Doncaster, DN4 6JT

Commodore Magazine is a fanzine built up of 10 A4 pages, containing news, tips and game reviews. The news, a story on Escom's activities in the C64 market, is so obviously ripped straight from the pages of CF that it's painful to read. Everybody has to find a source of news, but there's no need to rip it out of another magazine.

We do come down rather heavily on fanzines, but there are a lot of things fanzines should and shouldn't be, and it matters to the reader – no-one wants to spend time reading what they already know, and new or relevant information should be presented in an interesting or entertaining way.

CM continues with an A-Z look at some of the best software houses who had anything to do with the C64. The only letters here that don't remind you of the good old days are W, X and Y, which were left blank, the competition being to provide entries for those letters for a mystery game.

When someone with a passion for the C64 (for instance, CM's author) produces a fanzine, they get the chance to explore new directions in publishing and see exactly what they can do with paper and ink. Instead, this fanzine submitted to reworking old reviews and talking about events long gone. Damn.



Subscribe and Save £1.20 over 12 issues! See page two

Commodore
Magazine

Every Month
£0.60p inc.p.p

Hello readers, and welcome to Issue One of Commodore Magazine. I'm hopefully going to be bringing you the latest and greatest in C64 news, previews, and reviews of the latest full-priced and budget C64 games, as well as old games. CM is more a tape based mag, but sometimes I will get some disk games and what I will do with these is a competition (the disks are not tested, so may not work). I will try and publish the mag every month, but more news later on this. I hope you enjoy CM, Dean.

CONTENTS
Page [2] NEWS: about subscribing to CM, news about a software company and a disk-based competition.
Page [3] TIPS: on Creatures, Crazy Cars.
Page [4+5] REVIEWS: IO, Wizard's Lair.
Page [6] Feature: ESCOM launch the C64.
Page [7-9] Software houses: a guide.
Page [10] Next Month.

ESCOM!!!
See page 6

Fanzine covers don't mess about – they can be used effectively as contents pages.

2/5

Oh, come on

Without putting too fine a point on it, there are a lot of good fanzines out there, and there are a lot of, erm, other fanzines knocking about as well. It seems a shame for people to blow the opportunity to produce a fanzine on a few pages of the standard, run-of-the-mill material. The point of a fanzine is your freedom to do the things that normal magazines can't get away with. Some fanzines fill their pages with wall-to-wall information, others take a more relaxed, less formulated approach. However they do it, they do it.

If you're producing a fanzine and you want it to stand out, why not do something a little different with the space? Take a page to ramble on about how much you loved Elite, or do a feature on the best game music. Take your humour to the next level, or spread scandalous gossip about people (actually, don't). Whatever, if you want your mag to succeed, it has to be special.

There's a wealth of viewpoints on current issues, and a lot of different voices we'd all love to hear – don't get drowned out in the crowd. When you've got the chance to say exactly what's on your mind, so don't waste it.

THE MIGHTY BRAIN

Another month, another stack of letters, another 2592000 seconds, another 648254 breaths. A brain can get really bored, you know.

"talent and, most importantly, money"

I'd like to start up an Irish fanzine for the C64 which would give away readers' games, PD games and my own humble constructions. I don't have a disk drive or printer or any special programs. What I do have is enthusiasm, writing talent and most importantly, money (about £250). I'd like to know what equipment I need to produce my fanzine, how much it'll cost and where to get it from.

Also, how can I reproduce the games I made and readers' games, how much does it cost and where can I get it done or buy the equipment I need.

John Crotty,
Co Waterford

Woah there – put your money away for a moment. Producing a fanzine needn't be as expensive as you think. You'll definitely need a disk drive and a printer, but you could pick both up for under £100 in the Buyarama section. The DTP software is a little more difficult, as unless you can find what you're looking for second hand you might have to resort to GEOS utilities that'll do the job, but not before you buy a second disk drive (yup – you'll really need two).

When you've used the DeskTop Publishing software to turn your words into pretty pages and you've printed them out, all you'll need is a photocopier to turn one collection of loose A4 pages into a whole bundle of fanzines. The easiest way to get access to a photocopier is to go to either your college, local library or copy shop.

Duplicating software is nowhere near as easy, though, especially on tape. Your best bet here is to distribute the software on disk, as you can duplicate them quickly and easily on your own C64. We use a professional duplicator to produce our covertapes and they won't duplicate anything in quantities under a few thousand.

With a bit of patience and a lot of hard work, it's easily possible to produce a fanzine on your C64, and spend the rest of the money on games. When you've finished, send a copy to CF and we'll be happy to run a news story on it. **TMB**

Short cuts

Please send me Rainbow Islands, Mayhem, *(Snip! ed).*
Andrew Kidd, Dublin
No. Go away. TMB

What do you eat, then?
Tony Hatridge, Slough
I'm on a high manilla diet. TMB

"a future issue?"

A big thank you to all the team who make Commodore Format possible every month – keep up the good work!

Now, can you please answer a few simple questions, your mightyness?

1 Would it be possible to dedicate a page in a future issue to the new CF staff and print a group picture?

2 What magazines are Dave Golder and Ollie Alderton working on now?

3 Is Jon Wells still programming games for the C64?

4 How about a demo of GEOS for the Powerpack?

5 Can readers submit articles for publication in the magazine?

6 I'm sending some tips for Gamebusters. I hope you print some of them, as they took a long time.

Arif Perez,
Manchester

Why, thank you. The schmoozing over, let's get to your questions.

1 Your dreams will come true next month, when we talk to everyone who was ever on CF, anytime ever, and then some.

2 Dave's currently residing on SFX, our brand new sci-fi mag, and Ollie's making the pages of Super Play look beautiful. They must have gnawed through the chains.

3 Yup – look at page 20 for more info.

4 GEOS is, unfortunately, disk only, and just wouldn't work on tape. Bad luck and all that.

5 Sure – you can submit one…

6 And they're much appreciated. In fact, you'll find you've dominated page 23 with your Action Replay expertise – nice one. **TMB**

"how to write games"

I'm not sure if you can help me with this, but I've been wondering how to write games on my C64. I've been programming in BASIC for a long time, and have just started learning to work with machine code.

Robert Jones,
Nottingham.

Oh, the cheek – of course I can help. Writing a computer game isn't a small task, though, and it would take a lot of space to show you exactly how to do it. Though I can't take up enormous areas of the mag (the editor gets miffed if I tread on his toes), After a short exercise in terrorist tactics, I've managed to secure page 20 for The Mighty Brain's Potted Guide to Writing Games. That should help you get started. **TMB**

Could you write games? Do you really believe we'll tell you how in the space of a page?

Take a leaf...

Blimey! Only half a page left to tell you about this incredibly useful book...

An Introduction to 6502 Machine Code
By R.A.Penfold
£2.95 • Babani • ISBN 0-85934-122-4

At the risk of sounding like a programming fanatic, you really should try giving your C64 a few instructions one day. This month's CF features a guide to writing games in BASIC, as well as The Mighty Brain's guide to writing games in machine code. At one point, he mentioned *An Introduction to 6502 Machine Code*, a book by Bernard Babani publishing that'll serve as an invaluable aid to all coders everywhere, and then some.

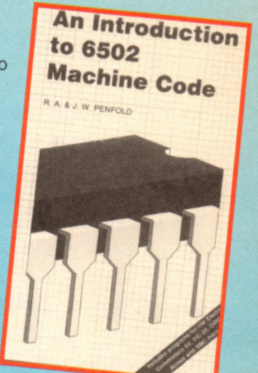
Why?

Well, 6502 is a difficult language to learn, made harder by the fact that the instructions aren't made up of words like PRINT or GOTO, but acronyms like LSR, which don't exactly help you if you don't have a handy reference to exactly what they do. This is where *Introduction* comes in – despite being published several years ago (but never reviewed), it's probably the most indispensable guide to the 6502 chip that you can find.

The book starts with a gentle introduction to the way chip works, covering subjects such as binary, hexadecimal, and binary coded decimal. Once you've got to grips with the various counting systems you're likely to come across, we enter the realms of registers, learning all about the different variables you can work with in the language, and exactly how to use them to their best advantage.

From this point on, the book slides into techie mode – you'll find a complete breakdown of every command available to you while programming, exactly what it does, which flag it affects, which registers it corrupts, and what its assembly code is. You'll be able to work out exactly how long certain routines take, as well as the best way to use the various stack and index functions.

To help you yet further, the appendices contain handy example listings compatible with the C64, so you can put what you've learned into practice straight away, and new programmers can see just how effective machine code can be within a short space of time.



The book itself – small, but perfectly formed.

One thing the book doesn't do is go into the specifics of the C64 – it concentrates on the 6502 and the machines that use it, and in that it won't tell you all about sprites, loaders and scrolling. However, if you've been keeping up with the Making a Monster, Diary of a Game and Techie Tips columns, you won't need that, will you?

Go on – summarise it

All in all, *Introduction* is an excellent book for your collection, whether you're an experienced coder or a fresh-faced beginner, unawares of the perils and stresses of machine code mayhem. It serves as an invaluable reference guide to every command available, and for only £2.95 you should run out and get a copy. It won't be the only book you'll ever need, but it's definitely one of the few.

85%

THE DARK KNIGHT RETURNS
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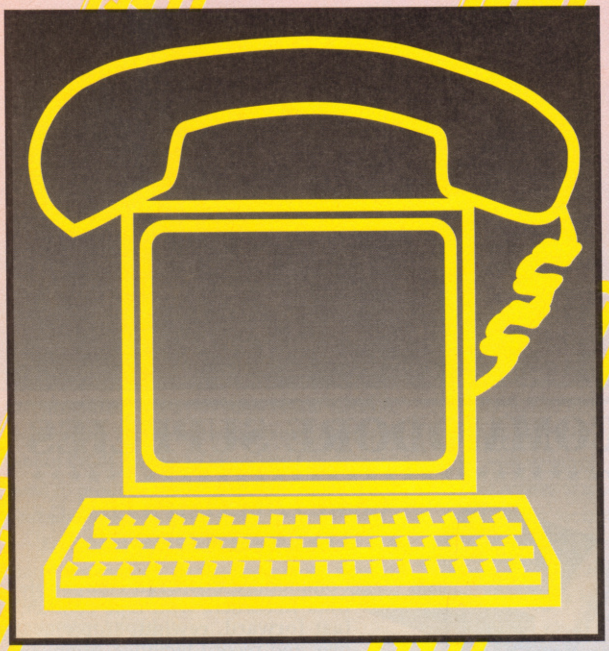
GET CONNECTED

Everybody else is doing it, so why aren't you? CF shows you how to get online with your C64, and join the party with 23,999,999 other people (I love statistics, me).



You've played all the games you care to, and written all the letters you need. You've done your homework, accounts and christmas tree lights with your C64. If you're especially brave, you may have even tried programming it. No matter what you've done with your machine, it's always been isolated – you can use only the disks in your box and the books on your shelf for information. Computers are immensely powerful machines, and this power is multiplied when you link them together, especially when there's a world of information to share. This is where the internet comes in – it's the combined resource of over 22 million people, which is probably just about as unisolated as you can get.

What is it?

The internet is the name given to a worldwide network of fibre optic cables, permanent lines and satellite links that joins together the thousands of computers attached to it. By getting your computer to call up a local point in this network, you can send and receive information from any other machine on the network instantly. Because your information can be sent at the speed of light, there are few physical boundaries – you may be communicating with a machine halfway around the world, but all you'll notice is a slight lag.

So we have a computer network that allows people to exchange ideas and information free of the restraints of geography. This means that if there's a particularly good C64 club in America, you can read their fanzines, download their software and join in with their conversations as if they were next door. It also means that the twenty people who liked that classic game *Choplifter* can get together and chat about it, despite being on completely different continents.

Champaign Urbana Commodore Users Group, Inc.

CUCUG

There're loads of online C64 fans, such as the Champaign Urbana Commodore Users Group, which is our personal favourite. You can email them at cucug@prairienet.org.

What's on it?

For the most part, the net is filled with a few basic types of data:

Electronic mail – By far the most useful service the net provides is the ability to send a message to anyone attached by simply quoting their name and location. This message will then make its way to its destination in a matter of minutes, and wait until they next connect to the net, at which point they'll be able to pick up the message and read it, up to a day before the same letter will have arrived by normal postal systems. When you take out an account with a local service provider (the people who your C64 rings up to get a connect to the network), you'll automatically be provided with an address. Commodore Format's address is cf@futurenet.co.uk, as we're at Futurenet, which is a COmpany in the UK.

Software – Well files, anyway. As well as your own C64, there are a lot of other computers connected to the net, some holding gigabytes of information just waiting for you to copy. The standard method for this is file transfer protocol, known as FTP for short, which allows you to look through the contents of a computer anywhere in the world, and pick out the files you'd like, dragging them back through the network, down the telephone line and onto your C64. In effect, these computers are working like PD libraries, taking orders and dispensing software as requested, the only differences being that you don't have to pay, and the software is dumped straight onto your computer, dispensing with the need for disks, tapes, SAEs or the postal service.

Open discussions – As well as the more private form of messages (email), there are forums for open discussion known as newsgroups. Anyone can join one, read the messages

posted there
and post mes
This system a
ple to talk to
exchange ide
tion or insults
Obviously, ea
on a different
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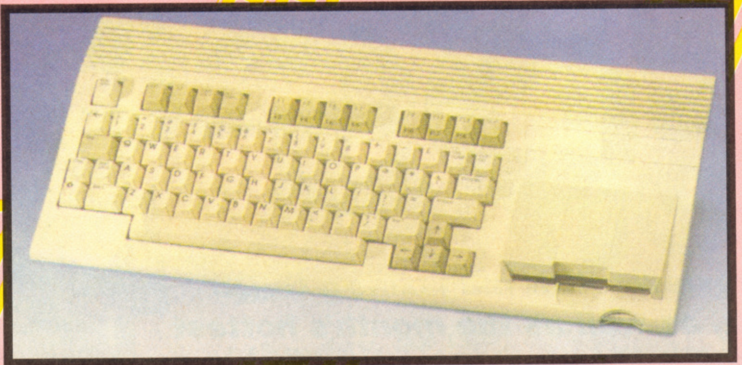
posted there by anyone else, and post messages themselves. This system allows lots of people to talk to each other and exchange ideas, help, information or insults freely and openly. Obviously, each group is based on a different topic, so to talk to other C64 users you'd go to that specific newsgroup. Detailed lists of all the groups available can be easily found, but if you want to save yourself the hassle, nip along to COMP.SYS.CBM, the group dedicated to Commodore machines.


You didn't think it existed, did you? This picture of the elusive (and commercially unreleased) C65 was found on the net, proving you can find information on just about any subject simply by looking for long enough.

What you'll need

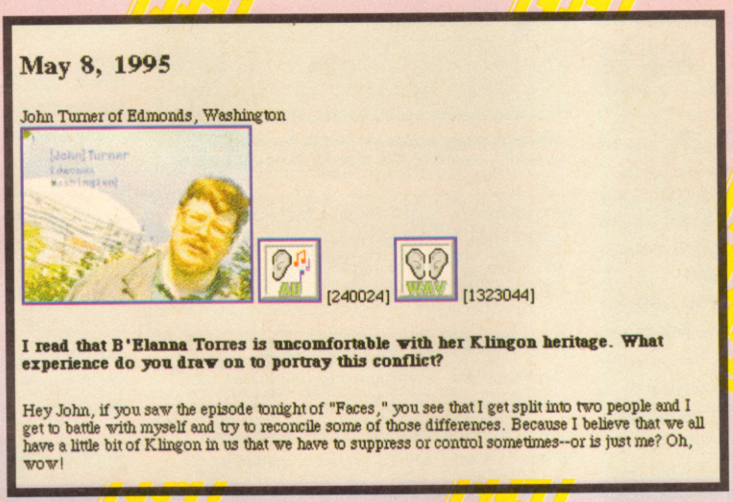
You've probably guessed by now that going online with your C64 requires a fairly large outlay on your part. It's not as big as you think, though. There are only really four things you need to get online:

A modem – This is the box that allows your computer to talk to other computers over a telephone line. It basically converts the signals and values you send it into specific high-pitched tones that the line is best at carrying, ready to be decoded back into a computer signal by the computer that receives them. You can get one of three modems from *(surprise surprise – ed)* Electric Boys Entertainment Software, ranging from roughly £15 for the slowest to £60 for the fastest. Give them a ring for more details.

A phone line – In case you were wondering, you'll need a phone line and you'll have to pay the phone bill for the time you spend connected – at the end of the day, BT will end up with most of your money.

An account – Finally, you'll need somewhere to ring that'll accept the signals you send it and feed them into the internet to where they want to go. Two good service providers are CIX, who charge a £25 setup fee followed by hourly rates (ring 0181 390 6561) and Demon, who'll sting you for a £15 initial fee, then £12 monthly after that (ring 0181 371 1234).

Kermit – No, not the frog, the program and, despite having a silly name, it's one of the most useful around, taking care of the communication and file transfer from your C64's end of the world. Despite being heralded as the new media, the online world is disgustingly slow and glitchy at the best of times, and a package like Kermit will help you overcome these problems by ironing out the creases and checking for any errors that could occur.


May 8, 1995

John Turner of Edmonds, Washington

I read that B'Elanna Torres is uncomfortable with her Klingon heritage. What experience do you draw on to portray this conflict?

Hey John, if you saw the episode tonight of "Faces," you see that I get split into two people and I get to battle with myself and try to reconcile some of those differences. Because I believe that we all have a little bit of Klingon in us that we have to suppress or control sometimes--or is just me? Oh, wow!

And then, of course, there's the obligatory gigabyte of *Star Trek* related tat on every server. This time, it's your chance to pose questions to the crew of the starship Voyager. It's not real, you know.

Have fun

And that brings us to the end of our internet guide. There's a lot more to the internet, but the best way to learn is to get on there and find your own way around. When you get online, drop us an email at cf@futurenet.co.uk, but we doubt you'll have the time – there's so much on the internet that it'll take you a lifetime to explore. And when you think you've seen everything, why not try adding to it? Online magazines, user groups or PD libraries are just the beginning…

FLYING TURTLE PAINTER?

We could see it in your eyes. Email – hmm. Newsgroups – weeeeell. Free software at the speed of light – letmeatitohyesgiveittomenownownow. When you're ready to explore the delights of FTP, here are the places to go. The host name is the address of the machine, and the path is a rough guide where to go when you get there to find the good things. These are separated by the first backslash:

ccnga.uwaterloo.ca/pub/cbm/
Everything from GEOS, through programming utilities to games. If you want it, it's all here, in one easy-to-manage archive.

sol.csn.ruu.nl/pub/MIDI/PROGRAMS/C64/
Stuffed full of good software for those who're using their C64's to control MIDI music devices.

uceng.uc.edu/pub/wuarchive/systems/cpm/C64/
What? You didn't know CPM was used on the C64? Well, this is the best place to find all those excellent utilities to run on the operating system.

ftp.csv.warwick.ac.uk/pub/c64/
Damn – there's nothing on this one other than PD games. Lots of them. Loverly games. Getcher games here…

nexus.yorku.ca/pub/Internet-info
Where to find a text file with even more ftp sites listed, if you're not happy with the list we slaved over. I dunno – it's all wasted…

src.doc.ic.ac.uk/usenet/comp.archives/c64/
Archives from the newsgroups that matter the most to our beloved machine.

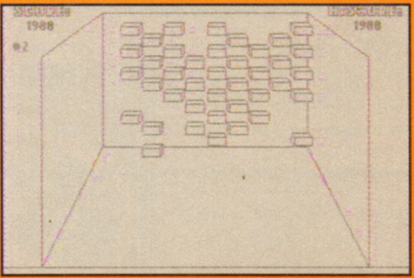
micros.hensa..ac.uk/pub/kermit/c64/
The place to go for a copy of Kermit, one of the handiest utilities you'll need for transferring those lovely goodies.

x2ftp.oulu.fi/pub/cbm/
This area is for technical C64 information only – basically stuffed full of unintelligible wibblish, all the way from Finland.

GEOS

Andrew Fisher reviews RUN magazine's GEOS compilation disk, as well as the month's hottest new GEOS utilities.

The double-sided compilation disk that RUN magazine created is now distributed by Creative Micro Designs, though the UK side is handled by EBES. It comes complete with a manual detailing all the software, and proudly displaying paper versions of the seven fonts that come with the package and the two screens of clip art provided by Susan Lamb, a well respected GEOS artist. You should note, though, that the disk contains software that will only run on GEOS 1.3 or 2.0, and costs £25.

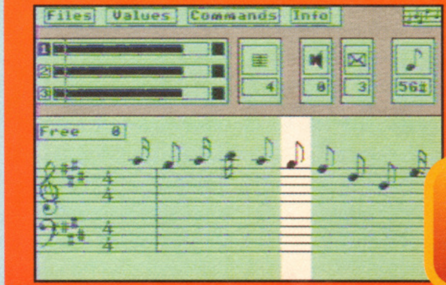


GEOS is really making a break for it with its faithful version of the classic *Breakout* game.

Powerful utilities

GeoAnimator is a package intended for the creation of cartoons. It works from a script created in *geoWrite*, using graphics you've created elsewhere to create glorious pieces of animation on your C64. As a package, it's definitely a novel way to use a C64, as cell animation is something normally only approached by 16-bit machines.

You'll also find packages like the *geoWrite File Merger (So what can that possibly be for? ed)*, *Batch Copier* for transferring multiple files, *1581 Bootdisk Maker* for creating self-booting disks and *Pattern Editor 2.0* that'll help you turn your C64 screen into garish plaid.



What GEOS has really been waiting for – a music sequencer. Hold all my calls.

PD and shareware

If you've spent any time reading Andy Roberts enthuse about the joys of PD and shareware, you'll probably be slightly annoyed that there isn't much GEOS software available under the schemes. This is because you're wrong.

Kingsway PD stock over 20 disks full of GEOS shareware, and will happily send you some for £2.99 per disk. Before you order anything you'll want a catalogue, though, so send an SAE to Kingsway PD (C64/128), 72 Glencoe Road, Sheffield, S2 2SR. They'll also give you a free disk for every 10 disks you order.

The ICPUG is another source of GEOS PD, and though they limit you to two disks per order, it'll only cost you the disks and an SAE. Again, there are 20+ GEOS disks amongst the collection of over 100 titles. You'll have to be a member to get the software, so why not write to John Bickerstaff at 45 Brookscroft, Linton Glade, Croydon, Surrey, CR0 9NA.

And then, of course, there's the geoClub, who carry over 300 utility disks, 40 font disks and 40 graphics disks. Each disk costs £1.25, and you can mix and match the software on the it to your own tastes. The downside is, of course, that you have to join to use the library, but why not write to Frank Cassidy, geoClub, 55 High Bank Road, Droylsden, Manchester, M35 6FS.

geoChart

If you've ever needed to produce graphs on your C64, you'll know that there aren't any dedicated packages for the job, other than those that incorporate large, cumbersome spreadsheets, like *Mini Office 2*. Though *geoChart* works with data produced by *geoCalc, File* or *Chart,* it's a light, flexible graphing tool that's quick and easy to use.

***GeoChart* is capable of producing bar charts, pie charts, percentage bars or line graphs, working with up to four sets of numerical data. You can then save the final image as photo scrap (a special GEOS format) for use in other GEOS packages or simply print it out.**

You can get *geoChart* from EBES for £29 by writing to EBES, 59 Milton Road, Tottenham, London, N15 3DS.

All the best tunes

For the more artistically bent, *geoBach* is both a sound effect generator and a music sequencer. The sound effects are generated quickly and easily with buttons and sliders replacing dull tables of figures defining attack and decay, and though the music editor requires a bit more keyboard work, it's equally as simple to use. Thankfully, the authors dropped stave notation in favour of a grid of notes, making thew package accessible to the musically inept. The files you create can be played through *geoMusic Player* (included) or with animations created with *geoAnimator.*

Just for fun

It takes a certain kind of geojunkie to appreciate the kind of games that always crop up in graphic environments. *Decode* is a version of the classic Mastermind board game, in which you have to guess a pattern of pegs, and *geoBreak* is a *Breakout* clone, adding nothing to the genre *(Thrills – when are we going to see minefield games? ed).*

NEXT MONTH

If you though that image morphing was something only used by TV advertisers when they really want to patronise (or Michael Jackson when he wants to make a new video or face), think again – your C64 is now capable of blending images together using *(No, don't tell me, let me guess – ed)*. *geoMorph (How did I know? ed).* There'll be more news and screenshots next month.

File pr
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OPEN

Function: C
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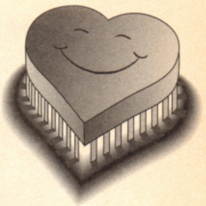
```
LDA #1
LDX #1
LDY #1
JSR SETL
LDA #4
LDX #<FI
LDY #>FI
JSR SETN
JSR OPEN
RTS
FILENAME
```

CHKI

Function: C
Call addres
Parameter



TRUE ROM-ANTICS

File processing is the order of the day, as the page degenerates into a squirming mess of technobabble, courtesy of Jason Finch.

OPEN

Function: Open a file
Call address: $FFC0 (65472)
Parameter passing: None
Prerequisite routines: SETLFS, SETNAM
Error reports: 1, 2, 4, 5, 6, 240, READST
Stack requirements: None
Registers changed: A, X and Y index registers

Description: This routine is used to open a file on one of the input/output devices connected to the computer. It can only be used after it has been set up with the OPEN system. It's the machine language equivalent of BASIC's OPEN command so you must specify the file number, device number, secondary command and filename. No parameters have to be passed directly to the OPEN routine but you must call SETLFS and SETNAM beforehand. Both these routines were covered in CF55.

Example: In BASIC you'd use OPEN 1,1,1,"INFO" but to implement this in machine language you would first call the SETLFS routine to set the file number, device number and secondary command accordingly. Now, call SETNAM to set the filename. Finally you call the OPEN routine.

```
LDA #1
LDX #1
LDY #1
JSR SETLFS
LDA #4
LDX #<FILENAME
LDY #>FILENAME
JSR SETNAM
JSR OPEN
RTS
FILENAME BYT "INFO"
```

CHKIN

Function: Open a channel for input
Call address: $FFC6 (65478)
Parameter passing: X index register
Prerequisite routines: (OPEN)
Error reports: 0, 3, 5, 6, READST
Stack requirements: None
Registers changed: A and X index register

Description: Any file that has been opened can be defined as an input channel by using this routine. The device must be an input device, otherwise an error will occur. If you are getting data from a device other than the keyboard, you must call this routine before using either the CHRIN or GETIN routines for data input. When you call CHKIN, you must specify the file number that's to become an input channel. The computer will then work out the device number by checking the parameters of that file. If it is a device on the serial bus, CHKIN will automatically send the talk address and secondary address if one was specified in the SETLFS command prior to opening.

Example: You've already opened file number 2 with device number 8 using the OPEN set of commands, so now you want to instruct the computer to prepare for input from this device. Therefore you have to call the CHKIN routine, specifying file 2.

```
LDX #2
JSR CHKIN
```

CHKOUT

Function: Open a channel for output
Call address: $FFC9 (65481)
Parameter passing: X index register
Prerequisite routines: (OPEN)
Error reports: 0, 3, 5, 7, READST
Stack requirements: At least 4
Registers changed: A and X index register

Description: In the same way that CHKIN defines input channels, any file that has been opened with the OPEN routine can be defined as an output channel by using the CHKOUT routine. If you are outputting data to the screen you do not need to use either the OPEN or CHKOUT. When you call this routine, you must specify the file number that is to become an output channel. As with CHKIN, the computer will then work out the device number by checking the parameters of that file. If it's on the serial bus, CHKOUT will automatically send the listen address and secondary address prior to opening.

Example: You've used OPEN to set up and open file 3, so you define this file as an output channel.

```
LDX #3
JSR CHKOUT
```

CLALL

Function: Close all files and channels
Call address: $FFE7 (65511)
Parameter passing: None
Prerequisite routines: None
Error reports: None
Stack requirements: 11
Registers changed: A and X index register

Description: This routine will close all open files and channels. It doesn't matter how many files you have opened orwhether they are input or output channels – this routine resets the pointers into the open file table which closes all files. It then calls the CLRCHN routine which resets the channels. You don't need to set up any registers prior to calling the routine, as JSR CLALL will do the job.

CLRCHN

Function: Clears all open channels
Call address: $FFCC (65484)
Parameter passing: None
Prerequisite routines: None
Error reports: None
Stack requirements: 9
Registers changed: A and X index register

Description: This routine clears all open channels and restores them to their original default values. The default input device is set to 0, and the keyboard, and default output device is set to 3 (the screen). If one of the channels to be closed is on the serial bus, the UNLISTEN or UNTALK routine is called as appropriate. The CLRCHN routine is called automatically when you use the CLALL routine. If you are calling the routine directly, you do not need to set any registers and therefore its usage is simply JSR CLALL without any other instructions being required.

TECHIE TIPS

What would we do without our resident Dr Finch? What knowledge! What expertise! What bedside manner!

Hungry printer

1 – Can ordinary typing or copier paper be used with the Citizen 120D? I've been using paper with holes down the side, but anything else just gets chewed up by the printer's head.

2 – Can characters be printed any larger than the standard double height and width?

3 – How do I centre a word or a paragraph on paper?

Paul Gibbs, Leeds.

1 – Unless the paper that you are attempting to feed through the printer is particularly thick, there is no reason why it shouldn't work. The paper that you are using at the moment, with the holes down the side, is known as tractor feed. Other paper relies on what is called friction feed. This means that the paper is pressed hard between two surfaces and the roller is such that the friction between everything pulls the paper through the printer. If you don't have the appropriate switch on your printer set to friction feed, the paper won't be pulled through correctly as the printer will be expecting tractor feed paper with holes in it. If you have flicked the printer over to friction feed then I see no reason why careful feeding of the copier paper should cause you problems.

2 – Not very easily is the simple answer. However, if you get hold of the *GEOS* software package, and in particular the *geoWrite* word processor, you will find that you can do all sorts of impressive things. *GEOS* prints out text as graphics and allows you to have loads of different fonts in all sorts of styles and sizes. Get in touch with Electric Boys Entertainment Software who should be able to provide you with a copy.

3 – To centre something on the paper you could use the printer's built in centering command. This will be given in the printer manual which you should try to get hold of if you haven't already. A slightly more laborious method involves working out how long the text is that you want to centre, then calculating the number of spaces that you would need to put before it to position it correctly. Bear in mind that the printer carriage is normally eighty characters wide. The following short program gives you a small demonstration. Lines 30 and 40 do the maths, lines 50 to 70 represent the loop that prints the spaces, and then line 80 prints the bit of text afterwards, hopefully in the centre.

```
10 OPEN 4,4
20 T$="TITLE OF REPORT"
30 L=LEN(T$)
40 SP=INT(80-L)/2
50 FOR X=1 TO SP
60 PRINT#4,CHR$(32);
70 NEXT X
80 PRINT#4,T$
90 CLOSE 4
```

The BASIC facts

1 – What is the best BASIC programming book for the C64 and from where is it available?

2 – What use is *BASIC Lightning* to a budding programmer such as myself?

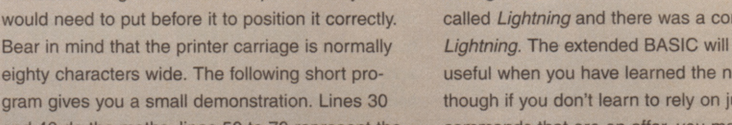
3 – Is it possible to program simple games such as *Bomber, Pac Man* and *Space Invaders* in BASIC?

Simon Hillam, Gainsborough.

1 – There isn't any particular book that stands out and shouts "hey, I'm the best" at the moment. The best way to learn any programming language is to experiment with other people's programs, and indeed with your own. So long as you have a user manual or a programmers reference guide, or some other book that contains a list of the commands and how to use them, you can't go far wrong. Just write some short programs and see what happens. The way I learned was to buy some books that had loads of BASIC games in them. By typing those in I think I picked up quite a bit of programming knowhow, and then I'd change things a bit to see what happened. Different types of games will give you different programming experience. Typing in an adventure teaches you a lot about string handling and subroutines, whereas typing in a car racing game would teach you a lot about sprites and graphics. Find some old computer mags and books at a car boot sale perhaps.

2 – It depends on which *BASIC Lightning* you are talking about. There was an extended BASIC called *Lightning* and there was a compiler called *Lightning*. The extended BASIC will be reasonably useful when you have learned the normal stuff, though if you don't learn to rely on just the normal commands that are on offer, you may find it frustrating when you need to program something that doesn't use the extended commands. If it's the compiler you're talking about, then it will simply speed up all your programs by converting the BASIC into some other form of code which runs a lot faster. Either way, don't worry about missing out on *BASIC Lightning*.

3 – Perfectly possible. The first game I ever bought was called *Spriteman*. It was a pretty addictive *Pac Man* clone that was written almost entirely in BASIC. Loads and loads of games have been produced that haven't even got the tiniest hint of machine code in them. All this means is that they run a bit slower and not quite as smoothly as their machine code equivalents. *Bomber* is a classic game that works well in BASIC and, showing my age, it was possible to get hold of a BASIC version of that when I was a lad.



```
    **** COMMODORE 64 BASIC V2 ****
 64K RAM SYSTEM  38911 BASIC BYTES FREE
READY.
```

BASIC is just a machine code program that runs on startup and accepts your commands.

Lottery fever

Is there any chance of a program to help people select their choice of numbers for National Lottery entries appearing on a future cover tape?

Scott Ross, Dundee.

Well I thought a question about the National Robbery was likely to appear here sooner or later and, wahay, here it is. "Lose a pound in an Instant" and all that. The lottery is entirely random, and so all you really need is something that will print out six random numbers between 1 and 49 without repeating any. There's a lot of talk about hot numbers and cold numbers and series of numbers and junk like that but, let's face it, you aren't going to win whatever happens, so you may as well just close your eyes and stick a few pins in the game card. Okay, so I'm cynical and annoyed that I haven't even won a tenner yet, but that's really got nothing to do with it. The program below creates an array N() which it first fills with the numbers 1 through to 49 inclusive in order. Lines 50 to 70 perform a cunning bit of jiggery pokery which shakes everything up and turns it into a random array with no repeated numbers. The first six are then printed out.

```
10 DIM N(49):S=RND(-TI)
19 :
20 REM FILL ARRAY WITH NUMBERS
30 FOR X=1 TO 49:N(X)=X:NEXT X
39 :
40 REM RANDOMISE FULL ARRAY
50 FOR X=1 TO 49:R=INT(RND(1)*49)+1
60 T=N(R):N(R)=N(X):N(X)=T
70 NEXT X
79 :
80 REM DISPLAY FIRST SIX NUMBERS
90 FOR X=1 TO 6:PRINT N(X):NEXT X
```

However, if you want something a bit more complicated, together with details of all past draws and a nifty little program that will select some random numbers for you based on previous draws, why don't you check out the cool National Lottery pages on the Internet. The URL of the pages to look at is http://ribble.csc.liv.ac.uk/users/rkl/lottery/ and it should give lottery maniacs many hours of gambling pleasure.

Coded message

1 – How can I display a text message on to the screen using a machine language monitor rather than an assembler?

2 – What does "JSR $F6ED" do?

3 – What about more machine code tutorials – the last series was terrific!

Chris Curran, Northern Ireland.

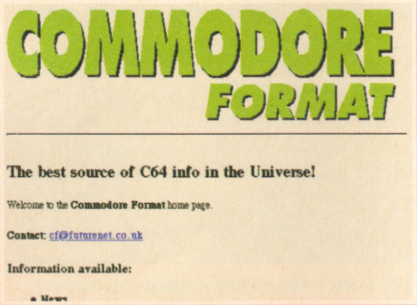
1 – A machine language monitor works in the same way as an assembler. However, you have to substitute the real location numbers whenever you see labels being used. Also, for BYT instructions you need to give the M command in a monitor which displays the memory contents. You then need to change these directly.

2 – The address $F6ED is part of the Kernal ROM and is called when you do a JSR $FFE1 which is the official address for the ROM routine named STOP. I haven't covered this one in True ROMantics yet, but basically it tests to see whether or not the STOP key (as in the RUN/STOP key) has been pressed. If it has, the zero flag of the status register will be set. However, you also need to call a routine called UDTIM which updates the system clock beforehand. That is done with a JSR $FFEA. So you will often find that command (or its direct equivalent JSR $F69B) preceding it. I'll cover both these routines in CF61.

3 – The previous machine code tutorial series was designed with beginners in mind and hopefully gave people a good start in learning the language. But the best way to learn is to experiment and to write your own code to see what happens. Combining your general knowledge of the language with information from sources such as Techie Tips and my True ROMantics series, you should be able to program some pretty nifty bits.

Web weaving

Our school has bought loads of new computing equipment and we now have access to the Internet and World Wide Web.



COMMODORE FORMAT

The best source of C64 info in the Universe!

Welcome to the **Commodore Format** home page.

Contact: cf@futurenet.co.uk

Information available:

- News

If you've got access to a PC or Mac on the web, you could visit CF's own home pages.

1 – I have found the home page of Commodore Format but was wondering if there is anywhere on the Internet with loads of information about the Commodore 64?

2 – Do you have a home page and if so, what is its address?

3 – Are there any other good sites on the WWW that you can recommend?

Steven Price, Leicester.

1 – The best site on the Web for Commodore 64 related stuff is to be found at http://www.hut.fi/~msmakela/cbm/ which is brimming over with information, photographs, disassemblies and all sorts of useful bits and bobs.

2 – I can be as technologically advanced as the rest of them, you know. If you're over 18 then check out http://www.scs.leeds.ac.uk/ronnie/ which is the official address of my home page.

3 – I'm starting to think that this letter was actually destined for .net magazine or something because it's not looking particularly C64ish at the moment. I guess I am obliged to mention Future's site at http://www.futurenet.co.uk/ which is utterly brilliant. The BBC have http://www.bbcnc.org.uk/ and I've heard that the ultimate in places to visit is http://agora.leeds.ac.uk/ronnie/Play/TakeThat/ which should keep you amused for hours. Alternatively, look at the FTP sites listed elsewhere in this issue for a few more places to see.

Headbanging

I think my disk drive is slightly out of alignment because it hasn't been working too well lately. It is a 1541 and I was wondering if you know of any cures for such a problem as I do not know of any repair shops near to where I live. I have heard rumours that there is a technique known as "knocking" that forces the drive head back into alignment. Is this true and if so, how does it work?

Michael Peters, Chester.

There is a technique known as knocking, yes. To be precise, it's called reverse knocking and it tends to make your disk drive sound as though it's about to blow up. The following program is the accepted way to reverse knock the drive head and it carries out the said piece of trickery a hundred times. Make sure you have an old disk in the drive in case your drive doesn't like it, and don't run the program unless you have to. It is not for the faint-hearted, pregnant mothers, people with back injuries and so forth. If you type it in exactly as shown it will be very loud, but it won't do your drive any harm. Having said that, neither myself, Commodore Format or Future Publishing are accepting any responsibility for the effects this program might have *(phew – ed)*.

```
100 OPEN 15,8,15,"I"
110 SP=1
120 FOR X=1 TO 100:GOSUB 160:NEXT X
130 FOR X=1 TO 20:SP=-1:GOSUB 160:NEXT X
140 PRINT"DONE"
150 PRINT#15,"I":CLOSE15:END
160 PRINT#15,"M-R"CHR$(0)CHR$(28)
170 GET#15,A$:A=ASC(A$+CHR$(0))
180 BI=A AND 3
190 BI=BI+SP
200 BI=BI AND 3
210 R=(A AND 252) OR BI
220 PRINT#15,"M-
W"CHR$(0)CHR$(28)CHR$(1)CHR$(R)
230 RETURN
```

BACK TO BASICS

Basically BASIC takes a slightly different turn this month, as we venture into the realms of computer game authoring, and create games that are masterpieces of prose.

Amazing, isn't it? You get a tutorial going and three months later, someone sidetracks it. Oh well – hold onto your hats, folks, this is going to be fast. If it's too fast, we'll explain the finer points next month. We're going to write a text adventure, and you're going to write most of the program for yourself.

The parser

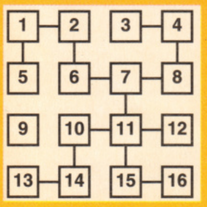
The core of your text adventure will be an:

```
INPUT C$
IF C$="NORTH" THEN GOSUB...
```

This is the part of the program that takes a command from the user (INPUT) and acts on it (IF C$=). For every verb, you'll need a new IF and a new subroutine to send the program to.

The map

All text adventures are based on a map. Let's make ours four squares by four squares, giving our adventure 16 locations in all. We'll arrange these locations in a grid, and place some links between them.



Tiny, isn't it? As well as being physically small, there aren't really enough locations on the map to make a full, big adventure. You could make yours bigger, as long as you scale the rest of the program up.

For each location on the map, we'll create a string of four characters stating whether you can go in any of the four possible directions. Using the order N, E, S and W (clockwise), we'll insert Ys or Ns to signify a passage. Location 1 is NYYN, 2 is NNYY, 3 is NYNN, and so on. These can all sit on paper for now, as before we put them into the program we have to understand (the horror!) dimensions. They aren't essential, but they'll make the programming a lot less arduous.

Dimensions

Remember string variables? A$="SIMON" means that from now on, PRINT A$ will display my name. We want to be able to store a lot more than one piece of text, so we use a dimensioned variable:

```
DIM D$(16)
```

This allows us to create a variable with slots, that we can use like this:

```
D$(1)="ONE BIT OF TEXT"
D$(2)="ANOTHER BIT OF TEXT"
PRINT D$(1)
```

The big question – why? Well, this means that if the descriptions for the sixteen locations are in the dimensioned D$, and the location number of the player is in L, we can print the description of the current room with PRINT D$(L).

We do the same for passages, by dimensioning P$ for 16 strings, each containing the NYYNs, etc. You can fish a letter out of the middle of a string using:

```
R$=MID$(P$(L),3,1)
```

The MID$ command takes three parameters in brackets. The first is the variable, P$(L), the second is the position (third character in), and the third is the length to copy. With this line in particular, R$ will hold a Y or N depending on the state of the south door. You should use a test command like this whenever you want to send a player off in a particular direction.

Directions

The most important element of a text adventure is being able to move around. The easy way to move someone on a map is to take their location number and apply a universal rule. As we know the player can't wander off the edge of a map (because there's no door there), we can use some simple equations.

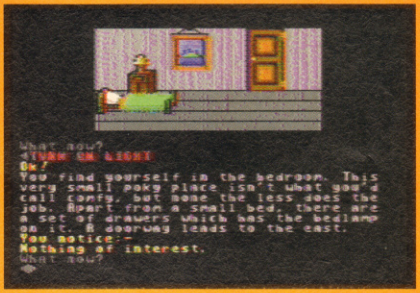
To go north, subtract the width of the map from the location number. For instance, if the player is on location five and the map is four rooms wide, going north is the same as L=L-4, which leaves the player in location 1.

To go east, add one to the location value. To go south, add the width. To go west, subtract one. Try it in your head – it works.

Your turn

Right – throw it all together, and what have you got? It's not going to be easy writing the full thing yourself, so there'll be an example on next month's covertape of exactly how to do it. If you've been following the BASIC series and have a manual at home (you got one with your C64), you should be able to muddle through.

This is, of course, a text adventure without objects to carry, puzzles to solve, people to meet or any challenge at all, in fact. That'll come next month, when we get to the next installment.



```
What now?
<TURN ON LIGHT
Ok!
You find yourself in the bedroom. This
very small poky place isn't what you'd
call comfy, but none the less does the
job. Apart from a small bed, there are
a set of drawers which has the bedlamp
on it. A doorway leads to the east.
You notice:-
Nothing of interest.
What now?
```

***Treasure Isle*, the first SupportWare release (see page 8). Could you beat this? And what happens if God's late for work in the morning?**

Learn to READ

There are two commands that'll really help you in your programming task, called READ and DATA. Let's take a look at a simple program.

```
10 DIM P$(4)
20 FOR A=1 TO 4
30 READ P$(A)
40 NEXT A
50 DATA "NYYN","NNYY",
"NYNN","NNYY"
```

Line 10 sets up the dimensioned variable, and lines 20 and 40 create a loop to run line 30 four times. READ takes the next piece of information stored with the DATA command, and stores it in the variable stated. As we've linked P$ to the loop, referring to the slot with the A variable, the information will end up in P$(1), P$(2), P$(3) and so on. This technique for reading in room descriptions as well.

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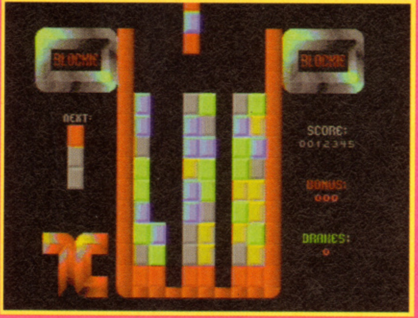
THE MIGHTY BRAIN'S POTTED GUIDE TO WRITING GAMES

Every month, someone sends a letter asking how to write C64 games. Now, once and for all, here're the answers.

So you want to write a computer game, huh? Unless you stick with packages like *SEUCK*, you're going to need to know how to program, which is a much sought-after skill indeed. First of all, you're going to have to figure out what language to use, which depends largely on the type of game you want to produce.

Adventures – These are the easiest form of game from a programming point of view, because you can get away with writing adventures in BASIC, without having to go into the realms of the *Graphic Adventure Creator*, even. This month's BASIC tutorial is a rough guide creating them.



Aah – puzzle games. Nothing's quite as easy as sliding big blocks slowly down the screen.

Puzzle games – You needn't start panicking yet, as though most puzzle games are written in machine code, the procedures involved in moving Tetris blocks down a screen or sliding tiles around aren't all that complex at all, and won't stretch your fledgling coding abilities.

Arcade games – This is where the hard work comes in. If you want to move a sprite any faster than a pixel per fortnight, and you want to create a game that relies on fast, smooth action, you're going to need to know machine code big time.

6502

We're going to assume that you've decided to take the plunge and go for the machine code option. There are a few things you're going to need:

Reference – the best reference for the C64's processor comes in *An Introduction to the 6502 Processor* from Babani Books. It details all of the commands the processor will accept, and provides handy notes on the way numbers are stored, what all the flags mean, etc. If you're coding, you'll need this book or something very much like it.

SCORE
000218450
STARS
072
TIME
174

It'll take you years of experience, but one day you could write something as top as *Mayhem*.

An assembler – these are programs that turn the assembly text commands you type into the raw numbers that the processor understands. You don't really need one as you could do the conversions in your head (well, I could), but you'd have to be insane. *6510+* is a sturdy, comprehensive PD assembler that's available from most PD libraries.

A disk drive – it's possible to work without one, but the ability to assemble your program, test it, then load up your assembler without having to wait for a tape is quite an important one. You'd die of old age before you catch your first bug.

Every issue of CF, ever – if you look at past issues, you'll notice we've produced game diaries, chronicling the development of some top C64 games. Though essentially these were to fill you in on exactly what goes into producing a game, you can pick up no end of handy tips on how to get those extra-special touches in your software.

Patience – programming in machine code is like teaching someone to eat by telling them which muscles to move to pick up the fork, how to scoop up food, where the mouth is, how to get the food into the mouth without dropping it all, how many times to chew for, and when to swallow. The hardest part is then working out why your subject just stuffed a forkful of rice up their nose.

Bye

And now, scarily enough, you're on your own. We'd love to stay and start a machine code programming tutorial, but it's probably not worth it – these things work best when figured out alone.

THE TOP 20 CODING RULES

1 DO sit down and plan your program on paper, for a good idea of what you're doing.

2 DON'T rush into the project without knowing whether it's going to work.

3 DO make sure your game design is original enough to warrant the effort.

4 DON'T write a game you wouldn't want to play to death yourself.

5 DO stick to a theme you like, as it'll provide you with endless enthusiasm for the subject (*Star Trek*, etc).

6 DON'T remake an old remake of an old game. Use an original idea.

7 DO recognise the size of the project you're undertaking. You want to know from the outset how many evenings of your life you're effectively throwing away.

8 DON'T draw the loading screen first – so many programmers fall into that trap, and end up with disks full of loading screens but no games to attach them to.

9 DO optimise your code. When you finish a routine, look at it and see how it could be streamlined for efficiency.

10 DON'T spend too much time doing this – you've got to finish the program, remember?

11 DO get your game playtested, by friends and family for their opinions.

12 DON'T ignore the invaluable advice they give you.

13 DO spend time going over your game seeing what you can improve.

14 DON'T call a project finished unless you're completely satisfied with it.

15 DO send it to a PD library once it's finished to get it seen by the masses.

16 DON'T start selling your first ever game for £20 a throw.

17 DO help other beginners coders starting out on the trail.

18 DON'T ignore advice or tips other coders give to you.

19 DO send your game to CF to find out what we think of it.

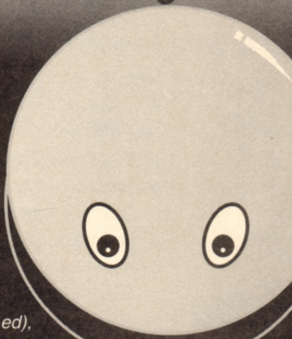
20 DON'T get offended if it doesn't score 100% – these things take time.

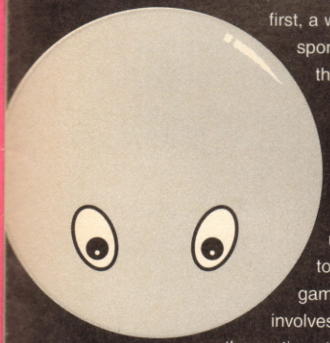
DIARY OF A GAME

In their second month of development, the Kubiszyn brothers twist their brains around the coding work to be done...

What? Haven't you been keeping up with the game diary? The cat was sick on your copy of CF59. Great. Oh, okay then...

The story so far: The daring Kubiszyn brothers have taken on the mighty gameplay of *PacPerson (not wishing to appear at all sexist, of course – ed)*, in an attempt to save gameplayers everywhere with the super-charged, super-fast, *Super Pac Twins*. Little did they realise when they set out on their journey that Big Jack McCode lurked just around the corner. Tonight's episode: No sir, that's not my wife. But first, a word from our sponsor – don't touch that dial...





Week 5: Paul

Toward the very end of last month, I started to create the main game code. This involves collating all of the routines that will be used in the final game, such as sprite movement, setting up the screen, collision detection and of course the game over routine. The first piece of coding this month was a simple joystick reader and sprite movement routine that would move two hires overlayed sprites on top of each other. The reason I chose this method instead of using multi-coloured sprites is that you can get a much better resolution but still keep some colour.

Ten minutes later, I have full control over player one, and can now move him in any of the four directions. I haven't written the routine to handle any actions when the player presses the fire button yet, because we haven't decided exactly what it'll do in the finished game. Whatever happens, it'll end up doing something special for the suffering Pac.

Week 6: Mark

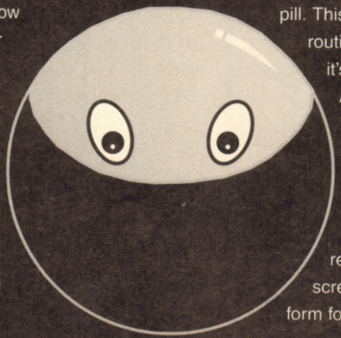
I've been very busy this week, designing the sprites for the main character, as Paul had been moaning at me for only giving him four frames to work with. My daunting task this week was to create all of the other character sprites for the character's movement, which isn't easy. One big change to the game style is that the sprites are drawn as overhead views – normally, though *PacPerson* is viewed from the top, the characters are viewed side on, which makes them look a little weird.

Super Pac Twins will look a lot more sophisticated than the normal style of *PacPerson* graphics, as the characters will only open and close their mouths when they eat things, as opposed to all the time. You can see from my original drawings that I was going to have a hard time getting there graphics onto the C64, so I dug out *FROST*, the art package.

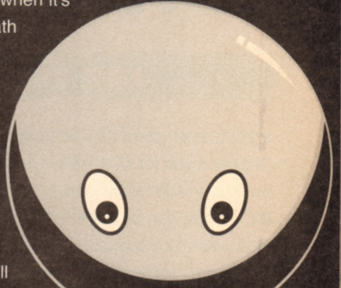
Week 7: Paul

At last, Mark has finished the sprites I'd been waiting for all week, and so my first job was to add the animation routine that will update the sprite pointers for every two pixels it moves on screen. The reason I picked two pixel gaps is because the sprite moves a total of sixteen pixels in one go, using eight frames of animation. If we had five different positions for the character to be in, we'd use the sprites in the sequence 1, 2, 3, 4, 5, 4, 3, and 2.

The next step was to do the collision detection, to make sure the character couldn't move through anything other than a pill. This is a fairly straightforward routine which I already had, as it's common to most games. All you really need to do is store the sprite's X and Y co-ordinates, then look at the sprites above, below and to the sides of your character in an array table (a table of numbers representing what's sitting on the screen in a more accessible, technical form for quick access).



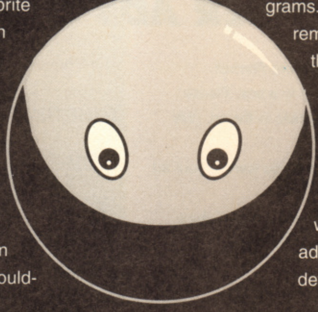
As I said, this routine was easy enough to code, so I made a start on the monster routine. Mark had his heart set on a routine that could move four monsters at independent speeds and animation frames. The standard routine adopted by most *Pacperson* games is to record the last 20 locations the player occupied, then have each ghost test to see when it's on your recent path and, if possible, follow that path you. In *SPT*, I've added a random element – the ghosts will follow you, but occasionally they'll stray from the beaten path, adding a little more havoc to the gameplay.



Week 8: Paul

The monster routine took about a day or two, but I'm not very happy with the amount of memory and processor time it takes up. I spent a while optimising the code, which is always an important step in writing large, time-hungry programs. I also wrote the routine to remove the power pills from the screen when the player runs over them.

While I was busy doing this, Mark began creating the levels for the finished game. The rest of week 8 was spent playtesting. The addition of yet more collision detection for ghosts meant we had the firm beginnings of a good game.



NEXT MONTH

Don't miss the next exciting episode of Diary of a Game, in which our dashing duo wrestle with the main level designs, and bruise their way through soundtracker modules in an effort to set the game to music. Until next month, try not to have nightmares.

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GAMEBUSTERS

If the time in your game just refuses to last,
Or there's a difficult level you just can't get past,
Or your mad joystick waggling's resulting in smoke,
Look at this page – you may find... oh god.

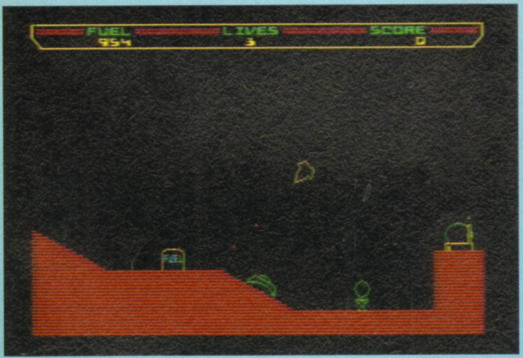
As well as the box full of Action Replay codes, Arif sent along lorry loads of top tips for other games. We haven't got space to print them all, but we've managed to fit quite a few in...

Batman the Movie

On level three, when you have to solve the Smilex puzzle, the correct combination of cosmetics is the green spray can, the purple cream pot, then the yellow spray can.

Last Ninja 2

On level four (the basement), you need to somersault onto a stack of crates to get past. When you get to this stack, it's possible to keep going back from here to the power lines to collect the hamburger for an extra life.



Firebird produced a lot of utterly top games, one of the best of which was the physics flyer, *Thrust*.

Hacker

The password for level one is MAGMA,LTD. For level two, type AXD-0310479, and to get onto level three you'll need HYDRAULIC. Yup – he hacked it.

Jack the Nipper

To start the game with infinite lives, turn the border white on the title screen by typing ZAPIT. Anyway, here's a list of objects and where they should all end up for maximum points:

Object	**Place**
Bomb	Police
Weight	Hummo socks
Washing Powder	Launderette
Credit card	Bank
Glue	Gummo Chomping Molars
Disk	Tech Research Lab
Horn	House, Police and Playschool
Weedkiller	Garden
Fertiliser	Garden
Battery	Just Micros

For in-game music, you'll need to collect the headphones and tape recorder. If you just want to increase your score, break everything after you've used it, and shoot everyone you come across.

Thrust

Pressing F5 and F7 together will slow down the game, making those tricky levels easier to play. For infinite lives, load the game then reset your machine (with the little button) and type:

```
POKE 6139,234
POKE 6140,234
POKE 6141,234
SYS 2304
```

Rick Dangerous

Enter FLUFOMATIC on the high score table to restart on the level you just died on. If you've got an Action Replay, poking 2793,173 will give you infinite lives. If you're playing the sequel, entering JE VEUX VIVRE on the high score table will also gain you infinite lives.

Hudson Hawk

On the title screen, push the joystick up, down, left, right, right, left, down, and up. The screen should now flash and you can start the game with infinite lives.

The Untouchables

On the prohibition screen for this excellent multi-leveller, type the word TECHNIQUE. Now you can start the game and press:

F7 to top up your energy
F5 to top up your time
(left) to skip levels

Alternatively, type HUMPHREY BOGART on the high score table, then start the game and press Q, W, and E to skip levels.

REPLAY

Following last month's wad, here's another batch of Action Replay cods courtesy of our mate Arif Perez.

Metaplex	37050,165	Lives
Mission Impossible	40521,173	Lives
Mazemania	13249,173	Lives
Nobby Aardvark demo	28212,0	Lives
Park Patrol	58474,173	Lives
πR^2	14882,173	Lives
	10203,96	Immu
Jeep Command	25902,165	Lives
PacMan	5360,234	Lives
Quix	25107,173	Lives
Rolling Ronny demo	11983,189	Lives
Rebounder	11983,189	Lives
Subterrania	5975,173	Lives
Split Personalities	7031,173	Lives
Shockway Rider	6816,173	Lives
Spindizzy	39882,96	Time
Sphinx Jinx	28182,173	Time
	28154,173	Stam
	28200,173	Water
Super Kong	30624,173	Lives
Trantor	8633,0	Time
	14651,165	Shots
	16135,165	Energy
	6571,234	Lives
	6572,234	
	6573,234	
Trashman	15175,0	Time
Time Trax	11744,233	Immu
	11745,0	
	11746,234	
	11726,0	
Terminal City	62588,173	Lives
Ugh! demo	9709,173	Lives
Yabba Dabba Do	40498,173	Lives
Arnie demo	13289,173	Lives
Addams Family demo	7265,173	Lives
Suburban Commando	2119,165	Level 1
	5533,165	Level 2
	5834,173	Level 3
Turtles 2 (co)	1018,(n)	Lives
Trolls	6248,173	Lives
	7141,44	Immu
Smash TV	41987,165	Lives
Switchblade	23925,0	Lives
	23880,233	Energy
	23881,0	
Batman The Movie	4866,173	Lives

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CF43 Power Pack games: Reader games extravaganza. Gamebusters: *Mayhem, Nobby, Future Knight.* Specials: How to make your games scroll, A-Z of sports sims, The return of Secret of *SUECK*cess.

CF44 Power Pack: *Carnage, Mayhem Mega MIx Part 1.* Gamebusters: *Mayhem, Nobby, Future Knight.* Reviews: *Penguin Tower, Archetype, Time Crystal.* Specials: Making music, PD library list, diary of a game: 10th Dan.

CF46 Power Pack: *Bonecruncher*, Complete level of *Mayhem, Quadraped Tearaways* music demo. Gamebusters: *Mayhem, Stormlord, Wizball, Carnage.* Reviews: *Squarescape, Escape From Arth, Wilberforce.*

CF48 Power Pack: *Tilt (CodeMasters), City Bomber demo, Repel, Wizard's Pet.* Gamebusters: *First Samurai.* Reviews: *Lions of the Universe, Bobix, Super Nibbly.*

CF49 Power Pack: *Fantasy World Dizzy, Penguin Towers demo.* Gamebusters: *Legend of Sinbad.* Features: What C64 products you should spend you £64 on; How to create new colours. Review: *Fred's Back 3.*

CF50 Power Pack: *The Original Dropzone, Heavenbound* demo, plus *Chaos* and *Galaxians.* Gamebusters: *Wizard's Pet, Cool World* and *Tilt.* Reviews: *Heavenbound, Cashman Compilation* and *Zzzz.* Special feature: Top 50 games.

CF51 Power Pack: *Steg the Slug, Deadline* demo, plus *Multihack.* Gamebusters: *Dizzy* Previews: *Amorphous* & *Mega Force.* Special feature: C64 Vs The World.

CF52 Power Pack: *Mega Force, PD Extravaganza* Gamebusters: *Dropzone* player's guide Special feature: GEOS.

CF53 Power Pack games: *Mind Maze, Darkest Road* Demo: *Bee 52 , Artris* Special feature: Sshh! Listen – the *CF* guide to making noise on your C64.

CF54 Power Pack games: *Spaghetti Western Simulator, Antifriction, overload* Demo: *Amorphous* Special feature: C64 bargain hunter – where to go for the best second-hand deals and how to recognise them when you see them.

CF55 Power Pack games: *Square Scape 2, Sceptre of Baghdad, Stars and Rings.* Special feature: Grin and repair it! part I. If your C64 looks as if it's about to give up the ghost read this! 'This' being practical advice on caring for your computer's peripherals. Also: SEUDS corner, the newest SEUCK games form Psytronic Software, and Well 'ard II. Russ Michaels on the CMD hard drive.

CF56 Power Pack games: *Harrier, 3D Space War, Superstrike, Darkest Road Part 2.* Utility: *FROST.* Special feature: Get animated! Jason Finch uses this month's powerpack utility, *FROST*, to put life into your sprites. Also: Grin and repair it, part II. Is your C64 sick? Don't despair, diagnose and repair, says Jason Finch, and tells you how; Plus: *GeoCalc* – a graphics-based spreadsheet.

CF57 Power Pack: *Sound Tracker, Slayer of the Damned, Colouration, Minotaur.* Specials: Enter the domain – the top 50 PD titles. Also: Make music with a *Sound Tracker 64* program. Gamebusters: *Antrifriction. Sceptre of Baghdad, Steg the Slug, Stars and Rings, Squarescape 2, Lemmings, Amorphous.* Review: *Access Denied.*

CF58 Power Pack: *Trashman, Capture, and House Case.* Specials: The C64 Reborn! Escom's plans to mass-produce the C64 again for sale in Eastern Europe. Also: A retrospective of 1993, the year of the computer game. Gamebusters: *SquareScape 2. Superstrike, Spacewar, Strike Force Harrier.* Review: *GEOS compatible printers, Sword of Honour.*

CF59 Power Pack: *Samurai Trilogy.* Specials: World Party – the many ways in which the C64 is celebrated the world over, even in outer space!. Also: More news on Escom, the company that plans to put the C64 back on the map. Gamebusters: *Action Replay* poke list, for all those with a button to press. Review: *Walkers,* and *Riddles and Stones.*

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